



"If you wish to be anybody nowadays, you must dare some crime that merits imprisonment." Juvenal—110 A.D.

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ON THE COVER

Early in 1937, radio stations all over the world brought news of a tragedy that once and for all ended the prevalent notion of that time that giant airships would be the transportation of the future.

At the end of her first flight of the season, after a rough four days in the air, disaster struck the zeppelin *Hindenburg* just as the airship was nearing her destination, the mooring tower at Lakehurst, New Jersey. Ninety-seven persons were aboard; thirty-six died, and many others were terribly burned.

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"...: I think it is a shame that 'meat' courses in undergraduate school concerning programming and management and communication theory cannot be given."

PUBLISHER'S REPORT

Fourth of a Five-Part Series

JACK

DESKIN

Seemingly, the end result of education is students taking their place in a profession. This is the goal of students majoring in broadcasting.

In earlier reports, the one outstanding factor discovered about the education of employees was ambiguity. Each broadcaster expects different training in a student. Likewise, each professor teaches a different "Philosophy of Instruction" at the more than 500 colleges and universities in the United States.

This ambiguity and difference is found also in the student. His wants and needs are more diverse than the entire areas of specialization in the medical profession.

The Association of Professional Broadcasting Education Research Committee, under the direction of Dr. Keith W. Mielke, professor of Mass Communication at Indiana University, evaluated the radio-TV curricula by graduates of 1960. The study contained 121 former radio-TV students from 10 colleges who received their bachelor's degree in 1960. Five years had elapsed when the study was conducted.

Of those graduates who remained in broadcasting, more emphasis on the following were suggested: (1) Advertising and Marketing, (2) Business Management and Law, (3) Journalism, Reporting, (4) History, Political Science, and (5) Creative Writing.

In order of importance, those who remained in broadcasting would have liked less emphasis on: (1) History of Broadcasting, (2) Radio Production, (3) Radio-TV Announcing and Performance, (4) Radio-TV in Education, (5) Speech or Interpretation, (6) Technical Aspects of Radio-TV, (7) Radio-TV Script Writing, and (8) Social Implications and Significance of Radio-TV.

Dr. Mielke encouraged respondents to express themselves freely on the back pages of the questionnaire. Some of the anonymous comments are pertinent to this report.

"There is no need for theory and practice to be at odds—graduates should be able to be well educated and obtain direct employment both from their college training. I only know that in the performance end of Radio-TV, I must re-learn everything—how silly to have teachers 20 years behind the times."

"Some of my courses were quite useful. Others should have been, but were poorly taught, such as a radio course using a director, engineer, and announcer, which is not the set-up recent graduates will find on their first jobs. Old-fashioned programming ideas hampered classes. Our classes were built around old-time network radio, virtually ignoring other types of stations."

"If there were a way for specialization in undergraduate work it would be very good. Graduate school is a nice place to further one's education with general theory and individual specific research into areas of interest. But I think it is a shame that 'meat' courses in undergraduate school concerning programming and management and communication theory cannot be given."

"Often young people ask me what they should do to get into radio. I tell them to get a degree in business or education and study radio as their minor."

(Continued on page 29)

San Jove Al Sante





70: EDITOR Journal of College Radio Department of Spooch 229-6 Konstrum Hall OU. Natura, October 3 13069

Editor:

Your magazine never ceases to amaze me. More often than not, it contains articles of interest, points that could be followed up, and, occasionally, "helpful hints." (If nothing else, it's always nice to find out that there are stations that consider promotion as essential to any operation worthy of calling itself a radio station as we do.)

But in your December issue, which by the way reached our office after the first of the year, it was suggested that college radio stations ought to begin airing commentaries on a regular basis. It seems almost incredible to me that stations have not already begun this vital journalistic function. WFUV, which is the 50,000 watt non-commercial radio station of Fordham University in New York City, has been involved with nightly commentaries since 1968, and we have found them to be one of the most important and integral parts of our news coverage. Our topics range from national issues, to local street cleaning operations. As often as possible, we also send copies of our statements to the officials involved for a duo of reasons, first of all, so they find out what we think (although we sometimes think the whole world is listening ... our research department tells us that they really don't) and so they see the calls in front of their desk as often as possible. I would add my voice to that of your columnist in suggesting commentaries as soon as possible, as often as

If I may take the liberty, I'd like to suggest another couple of ideas for local college stations, both of which have served us well. Invite local leaders, mayors, congressmen, professional athletes to your station for interviews. It may take some doing to line up the top ones, but they are usually good programs and can be worth some mileage in the local papers, and certainly your campus organ. And, secondly, enter contests with your best material. Each wire service runs a statewide contest often for excellence, with a college category, and there are dozens more. Awards look great! (Espe-

ially with budget conditions the way ney are . . . administrators love them.)

Thank you for reading my long iscourse on nothing, but we are in the ommunications business.

Sean Driscoll News Director WFUV, Fordham University Bronx, New York

Editor:

Your November "Publisher's Report" as created a stir on our campus. I hought you handled well the information you were using, not claiming for it my greater significance than it deserved.

However, our faculty asked me to espond with our story, in the obvious nope that you might be able to use it in a uture issue. I'm attaching that response. hope you will find some use for it.

Charles T. Lynch, Asst. Chairman Radio-Television Dept. So. Ill. Univ., Carbondale, Ill.

Editor's note: Article by Mr. Lynch can be ound in this issue.

Editor:

I want to express my thanks to Jeff Fellis, author of "How to Succeed at a College Station Without Really Knowing Anything," in the December issue of JCR.

Training operators is a real problem, especially at a station which is on-the-air 24 hours a day and programs many types of material, including remotes. Nothing peeves me more than turning on my radio at home and hearing the results of having an incompetant engineer on duty who doesn't know what to do when he hits an I.D. cart that wasn't rescued, etc., etc.

Jeff Tellis can have a job here anytime ne wants it. From his article I get the impression that he's been at KUSC as long as I have, and suffered the same neadaches.

> Steve Miller, Prod. Dir. KUSC FM Los Angeles, Calif.

Editor:

I very much enjoyed your article entitled "How to Succeed at a College Station Without Really Knowing Anything."

The article struck home for us here at WUNH as we will be experiencing the loss of several of our "prime" personnel. We have experienced the problem of gaining

(Continued on page 29)



If Bertrand Russell's comment that people would "rather be dead than have to think" is true, then newscasters and announcers need not try to determine the effects on society that transpire from their work. If, indeed, they wish to think, then it's time to do so now.

The questions to be answered have already been raised scores of times in the past two or three years. If television coverage of riot situations causes an even greater atmosphere for violence, then should newscasters be restrained in their reporting of these and other related events? If lyrics in rock music contain "suggestive coersion" that induces young people to experiment with various drugs, then possibly these records should not be played, based on the judgements of station administrative personnel or FCC regulation (which would, in effect, be censorship of sorts, forbidden to the Commission by Section 326 of the Act). If television programs educate the young into a world of violence, as most recent studies have said they do, then should the networks and local affiliates curb violence to an even greater degree than has already been accomplished?

A recent statement by Walter Cronkite in a speech to a Sigma Delta Chi national convention is a revealing one. The veteran CBS anchorman commented, "I don't think it is any of our business what the moral, political, social or economic effect of our reporting is."

The remark is one that would, and did, draw reactions on both extremes of rejection and acceptance. If newsmen do adopt the attitude reflected in Mr. Cronkite's statement, then the image of TV as the cause of so many ills within the society will be perpetuated endlessly. It is true that the First Amendment protection of free speech and communication should set off the new media from any pressures of the society, other than those caused by an unprofessional journalist, broadcast or other-wise. But, in all good conscience, is this possible? According to probably the best network newsman, it is.

Cronkite's comment drew this response from Dr. Irving Fang, of the School of Journalism and Mass Communication at the University of Minnesota (Saturday Review, January 9, 1971), "I disagree with Mr. Cronkite. It is the journalist's concern to consider the consequences of his work, just as it is the physician's, the attorney's, the minister's, the professor's, and indeed every professional man's concern." The opposing viewpoint.

The question has to be left up to the professionalism and conscience of each individual journalist. There can be no steadfast doctrine issued (even by the almighty FCC) that can answer as important a philosophical question as the one Cronkite raises.

The issue is basically the same when it comes to the music lyric question. Vice President Agnew raised the point (in the usual, pacific, soft-spoken manner he is accustomed to when wielding his verbal scalpel) in stating that today's music permits a degree of permissiveness, escalated by the lyrics that urge young people to turn on any way they can. Should songs that contain questionable

(Continued on page 28)

The November 1970 issue of Journal of College Radio contained a most interesting "Publisher's Report" by Jack Deskin. There is little doubt that "too many educators are out-of-date," and that "broadcasters do not seem to really care." Mr. Deskin comments that several institutions are doing a good job; but perhaps those institutions are not aware of the problem their graduates may face because of the poor job being done by other institutions.

Copies of the report were distributed

gramming, production, and writing, in markets from small to major. Our management courses are taught by a man with many years of actual management experience at commercial stations. Our News and Public Affairs Director, who teaches news and announcing courses, has more than 25 years as a major market newscaster, news writer, and news director. In sports, radio and television production, and writing, the teachers have all been through the mill. So have our students when they graduate. Our

radio-television majors. That places us among the units with the largest undergraduate enrollments on our campus-and possibly we have close to the largest number of radio-television majors of any university. The specialized skills and theories taught could not be covered for this number of students in any lessspecific curriculum. I am also surprised that someone still thinks the place to teach news is in the Journalism Department. There is a wide difference between print-oriented news and broadcastoriented news. Our students encouraged to take journalism courses; journalism students may avail themselves of broadcasting courses. The two are closely interrelated, but neither is at all capable of supplanting the other.

Because of our orientation, we work perhaps more closely with our commercial bretheren than some other educators may. We attend the conventions-Illinois Broadcasters, Illinois News Broadcasters. NAB, NAFMB, as well as NAEB, PBS. NER, NPR, SCA. We subscribe to RAB and TvB services. We also visit commercial stations and appear on their programs. We invite broadcasters from the commercial stations to address our classes, and many of them do. Even so, we concur heartily that there is too little interaction between the people who are educating future broadcasters and the people who must eventually hire them. Our campus placement service schedules hundreds of interviews each year with a variety of types of employers; when a broadcasting company comes to campus to interview, it is a rarity. We have had excellent relations with AVCO Broadcasting, which has made available summer internships to our students for the past few years with excellent results. Some of our graduates are now working for AVCO. In stations, agencies, and allied industries hundreds of our graduates are now contributing to broadcasting.

We want to work with commercial and educational broadcasters alike to turn out the best possible people with the greatest potential for success. First we must persuade those broadcasters that many broadcasting students are alert, well-trained, and seriously interested in a career in this demanding but rewarding field. Perhaps we and other universities can perform a major assistance to radio and television stations which are always receptive to hiring creative, imaginative, qualified employees. They have the jobs. We think that we have the people. As Mr. Deskin says, "Let's get it all together."

Education For

Broadcasting?

Charles T. Lynch
Assistant Chairman
Radio/Television
University of Southern Illinois

A Reply from SIU

to our faculty in the Radio-Television Department of Southern Illinois University at Carbondale, as well as to members of our Student Advisory Committee. The students were depressed to think they might encounter the kind of reaction that seems common among professional broadcasters who were quoted in the article. Our students and faculty shared the feeling that these criticisms are not pertinent to us, but that we stand to suffer from them. Therefore, let me comment on some of the problems raised, and our approach to a solution of these problems.

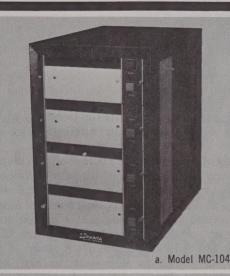
Graduates of our department are permitted to take only one-quarter of their total number of hours in their major. The rest of their credits must come from a wide variety of disciplines. They do get a liberal arts education. In their major they are taught by people who know the business. Many faculty members have had years of commercial broadcasting experience. I spent 29 years in commercial radio and television pro-

37,000 watt FM station is operated completely by students with faculty supervision and control. The embryonic broadcasters are listened to and critiqued constantly. Our VHF television station also affords actual on-air experience in the production and presentation of all kinds of local programs. The teachers are directly involved in these presentations. The theorist in the classroom becomes the practitioner in the actual situation.

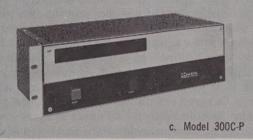
As for those "1947 logging rules," we stay abreast of a fast-changing industry in every possible way. Our management courses use Broadcasting as a text. Our course in broadcast regulations regularly brings up for discussion the most recent actions of the Federal Communications Commission, the Federal Trade Commission, the Supreme Court-and even the latest activities of Nicholas Johnson. Access to such publications as Pike and Fisher's Radio Regulations and the Topicator (which indexes broadcasting trade journals as Readers Guide to Periodical Literature does not) further keeps the student in touch with current practices. Class discussions frequently center around the programming on area radio and television stations, and they are critiqued in great depth.

Perhaps all of this qualifies us as one of the institutions which Mr. Deskin believes are offering excellent programs in radio-television. If so, we might then be permitted to add some comments. I am surprised that Mr. Dubinetz of WJJD Chicago believes that our discipline is not specialized enough to warrant a separate department. We have at present over 350

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The Program-Centered Broadcasting Curriculum

Professor Topping is an associate professor of speech at Bowling Green State University, Bowling Green, Ohio. Prior to his present position, Dr. Topping was an associate professor of radio and television at Oklahoma State University. He received his M.A. and Ph.D. degrees from Ohio State University, where he wrote several papers concerning issues in broadcasting.

During the summer of 1967, he was project associate to the Institute for Research on Poverty for "How the Poor Use the Media: An Exploratory Study," at the University of Wisconsin. Dr. Topping has held numerous positions in media and is co-editor, with Dr. Lawrence Lichty, of a forthcoming book on broadcasting history.

Malachi C. Topping Associate Professor Bowling Green State University

Even if broadcasting departments had complete control of their destinites, most of them would be hard-pressed to find the "perfect" curriculum. In reality, course offerings depend on the history of the department, its relations with the dean and the curriculum committee and the interests and abilities of its faculty. If there were a perfect curriculum for the study of broadcasting, it would probably be constructed around a unit of study. The chemist uses elements as a basic unit of study. The physicist has forces. This unit of study in broadcasting is the program.

The program is central in the study of program production, announcing and performance, news, script writing, broadcasting education, and studio techniques. The program influences management, advertising, marketing and regulation.

The program-oriented curriculum is used in a number of colleges and universities. Professor Harrison B. Summers developed the concept of the program as a core for studying broadcasting while he was teaching at Ohio State University. Explaining the development of the idea, Professor Summers wrote, "... when I came to Ohio State in 1946, and had a chance to organize a sequence of broadcasting courses, what I set up definitely had a programming orientation... My own background was program-oriented; work in audience research, about listener preferences for programs of stations—the latter certainly resulting from types of program provided—and work in programming, at networks." Graduates of the Radio/Television interest area at Ohio State walked out with a diploma and several hundred "blue sheets" which were the Summers Programs and Audience course.

One Product Industry

One graduate, Professor Ripley, points out that Professor Summers describes an industry which is devoted to the construction of one product—the program. Concentrating on the program has certain values. A number of studies have indicated that many graduates holding degrees in broadcasting do not work in radio, television, or allied fields. These majors will see the programs the rest of their lives from the living room side of the communication chain, just like many non-majors. The concentration of the course on programs is of lasting value to students who will be part of the intelligent viewing audience. The student learns how programs get on the air, the economics of broadcasting and must develop a process of evaluation of programs.

The key course in this curriculum examines the structure and other aspects of programs. It is taught at various grade levels. At the University of Missouri the course is for advanced majors and graduate students. At the University of Wisconsin the course is an undergraduate offering. There are other variations.

The study of the program as a core of a curriculum tends to encompass and minimize some of the more traditional aspects of broadcast teaching. The program-oriented student is concerned with the effect of wires and lenses on programs just as he is interested in the psychological, economic, sociological and regulatory aspects of broadcast programs. There is a natural overlap with journalism in the study of programs, particularly in regard to documentaries and news. The journalism student finds that the understanding of program structure and preferences of audience provides him with new tools of showmanship. The student with a background in programming is better equipped to study documentaries, news, educational broadcasting, advertising and the like. The program unit approach to broadcasting does not ignore the proprieties. Most schools offer a beginning course-a survey of the industry. In many schools the next course is the program course which describes program structure and how audiences react to programs. Some schools use the studio as a laboratory in the course. Others have the student structure original programs on paper. After the introduction and the program course, the student centers on studio work, advertising, management, law and regulation, theory, education, news and the like.

Programming History

An essential in the structure of this curriculum is a history of programming. Program history can no longer be included as a part of a three-hour course in the study of programs—there is just too much the student doesn't know. It is hard to believe that in the 1948-49 season Fred Allen, after 16 years, was in his last year on the network with a sponsored show, and that most students were not yet born. Students have never heard the "Little Theater Off Times Square." It's obvious that we must have a course in program history with supplementary taped materials.

The program approach to the study of broadcasting lends itself very well to the interests of majors in allied fields such as journalism, advertising, and the theater. The advertising student finds a course which, when discussing programs, considers the ad as an integral part of its structure. The theater major finds carry-over from the stage in the study of the structure and the sociological aspects of programs and programming.

(Continued on page 30)



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CAPITOL HILL

McCloskey Report

BILL McCLOSKEY
METROMEDIA NEWS

KMET-FM, Metromedia's underground station in Los Angeles, has contacted area carrier-current college stations urging them to re-broadcast KMET when they are not broadcasting themselves. The station discovered that a large number of the college stations in the Los Angeles area were already picking up the KMET-FM signal from a tuner and doing just that.

Many stations are willing to allow re-broadcast of their signal into the dorms. They feel they can pick up valuable audiences, even for only part of the day. For the campus station, of course, it means there is always a signal there when someone turns on the radio. FM penetration is a problem in some cities, so FM stations it would seem would be even more likely to allow you to re-broadcast the signal. It gives them a way to get into AM only dorms. The arrangement is something like the cable operations that the CATV companies have set up.

Fellowship

Consumers Union is sponsoring an annual fellowship to the Columbia Graduate School of Journalism to a student who has demonstrated an interest in news that concerns the consumer. The faculty of the school makes the selection. A request for information brings a reply asking that you submit clippings (scripts or tape presumably for broadcast types) to demonstrate your interest in consumer affairs. The award includes tuition, fees and a cost of living stipend.

Applications can be had by writing: Assistant Dean, Graduate School of Journalism, Columbia University, NYC 10027.

Major Gift

Post-Newsweek has asked the FCC for permission to turn over WTOP-FM to Howard University in Washington, D.C. Howard is a predominantly black college. The school was turned down in a recent bid to get the application deadline extended for the only remaining FM frequency allocation in the city.

There has been a question raised, however, since Howard is connected with the Federal Department of Health, Education and Welfare. According to *Broadcasting*, the problem is whether or not the Commission can allocate a broadcast frequency to the federal government.

Letters

The November 2, 23 and 30 issues of Broadcasting contain several more installments of the continuing discussion of how to get started in broadcasting. It starts with a letter from a young man seeking work. He claims to have written to several stations in Florida and so far, no job. He is a broadcasting graduate. Another letter from New York State urges broadcasters to look to college TV-Radio departments for competent help.

The exchange continues with letters from professionals in Dallas and St. Louis. One tells the old story about getting experience in small markets before trying to make it in the big time. The other tells his experience of trying to hire some recent graduates after their credentials were touted, only to find they weren't interested.

The final letter is from operations director of a Los Angeles station. His contentions are that a college degree is not a guarantee that you can perform professionally; that there is more to radio than being on the air and that there is a lot to be said for getting professional experience while in college.

It is interesting to see this come up in Broadcasting. Hiring practices—today's, yesterday's and tomorrow's—are varied. I have heard of people turned down because they are white and there is too much pressure to hire blacks. Different managers look for different types of experience. For air jobs many stations depend 98% on the sound of the audition tape. Resume claims are sometimes never checked, references never contacted.

My own personal theory is that you should work for a professional station while you are in college. A friend told a young job applicant recently that his college radio experience didn't count because you can never tell what kind of college station it was, and aside from that, if you are interested in broadcasting, of course you were on the station. If you weren't, there would be a serious



BROADCASTERS

Test-Answers for FCC First and Second Class Commercial License, by Warren G. Weaganty, Command Productions, Box 26348, San Francisco, California 94126.

As long as the FCC continues to rule that operators at directional antenna stations and stations with 10,000 watts must be on duty with First Class licenses, there will be a great need for books such as this new one from Command Productions in San Francisco.

This 1971 edition can save students and non-students the cost of tuition and expenses to attend one of the many "instant" license schools throughout the country. It contains complete tests and answers for both the First and Second Class FCC licenses, with 41 schematic diagrams, lists of short-cuts and study tips and a self-study ability test.

Broadcasting departments at colleges and universities can write to Command for quotations on 10 copies or more.

Video Tape Productions & Communication Techniques, by Joel Efrain, Tab Books, Blue Ridge Summit, Pennsylvania 17214. 256 pages, Hardbound, \$12.95.

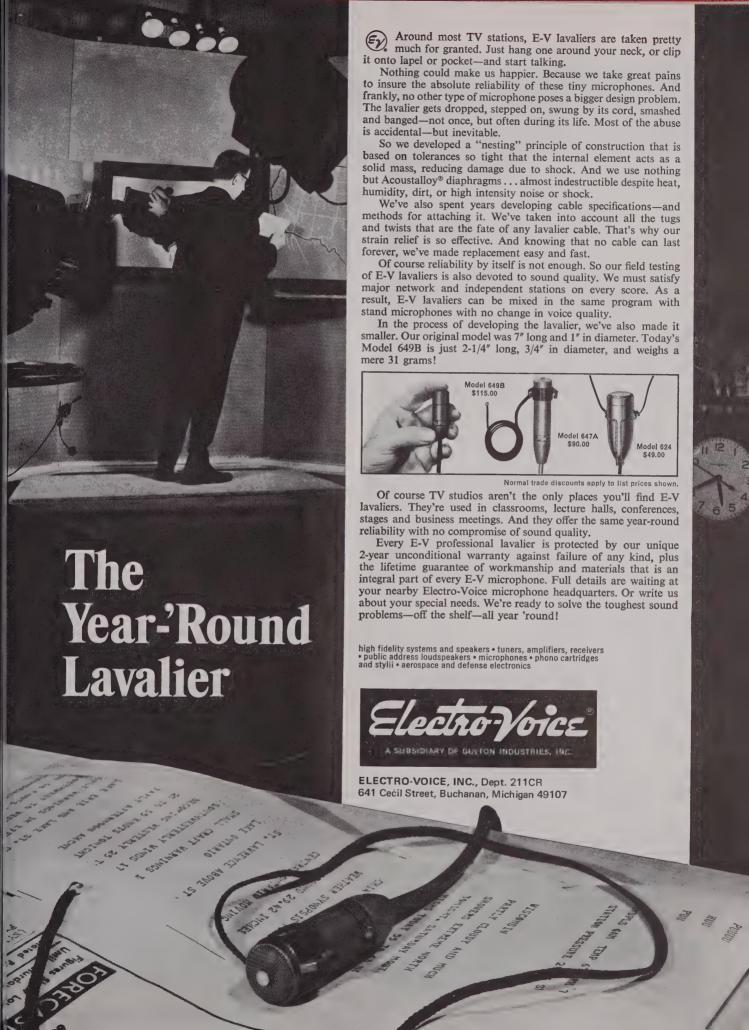
A guide to the use of video tape in television production, quite useful for students enrolled or planning to enroll in TV production and direction courses.

Text is divided into two parts, "The Medium" and "The Message" (a familiar phrase). First part includes basic VTR systems, production elements, direction techniques and post-production effects.

Part two examines, quite well, preproduction planning, program creation, sample program formats and related information.

question of your desire to be a broadcaster.

Most disturbing in the *Broadcasting* letters was the one from the recent grad who couldn't find a job. If that is the case, something must have been lacking in his training that he got from the broadcast department at the school he attended. Perhaps the training was simply not job-oriented and he didn't realize that. Perhaps the men teaching broadcasting don't realize this problem. More on this in the space next month.



Guidelines for Producers Concerning the Copyright Law

by

Laurence B. Stone

Director of Instructional Television-Radio Broadcasting

Ohio University

Athens, Ohio

This article is intended for use by both television and radio producers at WOUB, Ohio University, Athens. It is designed to be used as a guideline in determining whether permission is required to broadcast and/or distribute certain copyrighted and uncopyrighted works on educational stations and CCTV networks.

The document was presented last fall to the National Association of Educational Broadcasters Convention by Mr. Stone. The editors of the Journal felt that the information would be of valuable assistance to all stations, therefore, permission was requested and granted to JCR to publish it in its entirety Mr. Stone's article.

The entire report is based on the current copyright law of the United States (Title 17, U.S. Code) which was enacted in 1909. It should be noted that the law has been undergoing revision in Congress for some five years. When a new law is enacted, this report and checklists must be revised.

As mentioned above, this report (and the accompanying checklists) is meant only as a guideline. Specific applications and court cases often alter the interpretation of portions of the law. Few cases of major importance are currently being taken to the courts, due to the pending enactment of the new law. This should not be interpreted as license to abuse the "fair use" provision, however.

This report concerns itself completely with copyright. No discussion of other "rights" (privacy, libel, teacher's rights, etc.) will be presented. These are also of major concern to the producer and might be dealt with in another report.

It is suggested that the producer become familiar with all aspects of the report, not just the checklists alone. Specific attention should be directed to the sections on the types of copyright and the doctrine of fair use.

Footnotes and a selected bibliography follow the report.

THE NATURE OF COPYRIGHT

Copyright Defined according to the U.S. Copyright Office:

A copyright is a form of protection given by the law of the United States (Title 17, U.S. Code) to the authors of literary, dramatic, musical, artistic, and other intellectual works. The owner of a copyright is granted by law certain exclusive rights in his work such as:

- -the right to print, reprint and copy the work.
- -the right to sell or distribute copies of the work.
- -the right to transform or revise the work by means of dramatization, translation, musical arrangement, or the like.
- -the right to perform and record the work.

The rights granted by the copyright law are not unlimited in scope. For example, in the case of musical compositions, the performance right is limited to public performances for profit. Recording rights in musical works are limited by the so-called "compulsory license" provision, which permits recordings upon payment of certain royalties after the initial recording has been authorized by the copyright owner. 1

TYPES OF COPYRIGHT

Both unpublished and published works may be copyrighted. An unpublished work is generally one for which copies have not been sold, placed on sale, or made available to the public. Unpublished works are eligible for one or the other of two types of protection:

- 1. Common Law Literary Property. This type of protection is a matter of state law and is automatically in effect when the work is created. It requires no action by the Copyright Office. It may last as long as the work is unpublished, but it ends when the work is published or copyright is secured.³
- 2. Statutory Copyright. This is the protection afforded by the federal law upon compliance with certain requirements. Only certain types of works may be copyrighted in their unpublished form. Others are not eligible for statutory copyright in their unpublished form, but are copyrighted upon the act of publication with notice of copyright.

Published works are works that have been made available to the public in some way, usually by the sale or public distribution of copies. As mentioned above, publication of a work with notice of copyright and registration of claim in the Copyright Office. When a work has been published without notice of copyright it falls into the public domain and becomes public property.

WHAT CAN BE COPYRIGHTED

The copyright law lists thirteen broad classes of works under which statutory copyright may be claimed, with the provision that these are not to limit the subject matter of copyright.

- A. Published Books.
- B. Published periodicals and their contents.
- C. Lectures or similar productions prepared for oral delivery. Generally unpublished works, including certain forms of television and radio scripts.
- D. Dramatic and dramatico musical compositions. Published and unpublished dramatic works.
- E. Musical compositions. Published and unpublished musical compositions (other than those in D, above) in the form of visible notation (musical score), with or without words. Also musical adaptations, arrangements, and editing when it represents original authorship.
 - F. Maps. Published maps, charts, globes and relief models.
- G. Works of art, or models or designs for works of art. Published or unpublished.
 - H. Reproductions of works of art. Published reproductions.
- I. Drawings or sculptural works of a scientific or technical character. Published or unpublished diagrams or models such as blueprints, astronomical charts, anatomical models.
- J. Photographs. Published or unpublished photographic prints, filmstrips, slides.
- K. Prints, pictorial illustrations, and commercial prints or labels. Published prints or pictorial illustrations, greeting cards, etc. Also a print or label, not a trademark, published in connection with the sale or advertisement of articles of merchandise.
- L. Motion picture photoplays. Published or unpublished motion pictures that are dramatic in character, including feature films, filmed or recorded television plays, short subjects, cartoons, etc.
- M. Motion pictures other than photoplays. Published or unpublished non-dramatic motion pictures, such as newsreels, travelogs, training or promotional films, etc.

LENGTH OF COPYRIGHT PROTECTION

Under the present law, the first term of statutory copyright runs for 28 years and may be renewed for another 28 years upon application to the Copyright Office. Due to the pending new law, Congress has extended protection to second-term copyrights that would have expired on or after September 19, 1962.

TRANSFER OR ASSIGNMENT OF STATUTORY COPY-

After following prescribed procedures, a copyright may be transferred to a new owner under the law.

FAIR USE OF COPYRIGHTED MATERIAL

Pilpel and Goldberg define fair use as "a use of the copyrighted material which is permitted by the law even though no expressed authorization is granted by the copyright owner."6 Siebert says, "Fair use is a legal doctrine not to be found in the Copyright Act, but adopted by the courts in order to alleviate the limited monopoly which copyright protection gives the owner."7

There is no legal basis for establishing specific rules or guidelines indicating how much use of a copyrighted work is fair use, but Siebert has identified five areas where the courts have considered fair use of copyrighted material both for commercial and educational broad-

- 1. Incidental Use. A reasonable amount of material can be used incidentally or as background in a new work. One of the tests applied is whether the use made of the copyrighted work tends to lessen the commercial sale of the original work.
- 2. Review and Criticism. Excerpts and quotations may be used in serious criticism. Critics may quote extensively for the purpose of illustration and comment.
- 3. Parody and Burlesque. Although a competitive revision of a copyrighted work may be an infringement, mimicry in good faith - no matter how devestating - is considered fair use. The line between fair use and infringement is difficult to draw here and the courts may (and have) ruled in favor of either side in similar cases.
- 4. Scholarly Works and Compilations. An earlier work may be used collaterally (in addition to portions of other earlier works) but not substantially copied.
- 5. Use for Non-profit Purposes. No clear-cut cases have decided that use for an educational not-for-profit purpose is within the doctrine of fair use, but, on the other hand, it is fair to say that fair use is wider in situations where the commercial element is absent.8

Siebert has also identified the following factors which have been taken into consideration by the courts in determining whether there is fair use of restricted material: (1) type of use, (2) intent, (3) effect of use on demand for the original, (4) benefit derived by the user, (5) amount of user's labor, (6) nature of the work, (7) quantity of work taken, (8) relative value of the part taken, and (9) whether the work competes commercially with the original.9

Also, it should be pointed out that the fair use doctrine applies only to material copyrighted under the Federal statute and does not extend to the use of unpublished literary material protected by the common

aw as discussed previously.

ACOUIRING PERMISSION TO UTILIZE COPYRIGHTED WORKS

Whenever it is necessary to have permission to utilize a portion of a copyrighted work, written permission must be obtained from the copyright holder. The producer will undoubtedly find securing permission quite difficult and frustrating. 10 First of all, he must identify the holder (or holders) of the current copyright for the work in question. Many copyrights are transferred or "licensed" to parties other than the original copyright holders.

Once the copyright holder(s) and licensees are identified, written permission must be secured for the use of the material in question. Quite often, this is a long process involving much correspondence and many phone calls. It should be noted that copyright holders are under no obligation to respond or grant permission and they may charge any amount they desire to permit utilization of the material. Also, if the

producer is unable to contact the copyright holder and chooses to use the material anyway, he is violating the law and may be subject to prosecution.

Acquiring permission to use a copyrighted work is usually a time-consuming (and often expensive) procedure that is one of the prime responsibilities of the producer. It is hoped that in the near future, procedures will be devised whereby the process of identifying the copyright holders and securing permission to utilize copyrighted material will be expedited.

Material Licensed for Use by WOUB

Audio

CBS EZQ Library. 75 audiotapes cleared for all use. Electra Sound Effects Library. Cleared for all use.

Capitol Music Series. Cleared for all use.

ASCAP music license has expired; continued use under fair use doctrine.*

BMI/SESAC gratis music licenses are in effect and are valid until revoked.*

*Not to be re-recorded and distributed.

U.S. Government Films. Some cleared for TV use.

Visual Dynamics (and other film clip services), Purchase of desired clip required (non-exclusive use); clearance obtained with purchase.

Ohio University Learning Resources Center Film Library, Clearance of desired film with producer.

NET Film Library. Excerpting by special permission \$15 per 1/2 hour for full programs.

UPI Newspictures from previous contract service. For local use only. NOTE: Materials not clearable at any price: National Geographic Films and Photos; Life Magazine Materials; Walt Disney Materials.

Copyright Requirements of **National Distribution Agencies**

distribution.

Requirement

All materials cleared for in-state

All materials cleared prior to

(CIPAL)	1 1 1
(CEN)	production by producer.
Eastern Educational Network	All materials cleared prior to
(EEN)	production by producer.
ETS/PS	All materials cleared prior to
	production by producer.
NET/PBS	Assistance in clearing material
	for NET use provided (music
	etc.). Costs subtracted from con
	tract amount.
NIT, GPITL, MPATI	All materials cleared prior to
	distribution.
NERN	All materials cleared, but radio
	distribution not so critical.

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LITERARY WORKS

(Books, periodicals, poems, directories, compilations, letters, dissertations, plays, etc.)

KEY: Y = May be used without permis-	Live or Emphemeral		Recorded Material		
sion. R = Requires permission. Ephemeral Recording— One that will be erased after first use. Not	Recording uo son I		or ion and i use on	PTV for distribution (ETS, NET, CEN) & repeated broadcast	Commercial for possible commercial broadcast
rebroadcast. Used only once. Convenience recording.	CCITV	PTV	CCITV for distribution and extended use on campus	PTV for distribut NET, CE peated b	Commercial for possible comme broadcast
Publications in the public domain	Y	Y	Y	Y	Y
Publications of U.S. Government	Y	Y	Y	Y	Y
Brief excerpts from published copy- righted books, articles, poems, lectures.	Y	Y	Y	Y	y1
Long excerpts from copyrighted books, articles, poems, lectures	Y	Y2	Y ²	Y2	R
Unpublished literary works	ү3	R ⁴	R ⁴	R ⁴	R ⁴
Copyrighted plays, operas, operatas	Y5	R6	R ⁶	R ⁶	R
Dramatizations (with scenery or stage business) non-dramatic works	Y ⁷	R	R	R	R

¹Depending on the length of the excerpt, the use made, and whether commercial sale of the work might be affected.

- ⁴Unless material is obtained from a public library where it was placed for general free use.
- ⁵As long as there is no "public performance" involved in the use. Classroom use is not a public performance.
- 6Except for short readings and brief excerpts acted out as examples of the sense of the play.

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MOTION PICTURES AND VIDEOTAPE RECORDINGS

KEY: Y = May be used without permission.	Live or Emphemeral Recording			Videotape orded Material		
R = Requires permission. Ephemeral Recording— One that will be erased after first use. Not			CCITV for distribution and extended use on campus	PTV for listribution (ETS, NET, CEN) & re- peated broadcast	Commercial for possible commercial broadcast	
rebroadcast. Used only once. Convenience recording.	CCITV	PTV	CCITV distribute extende campus	PTV for distribution NET, CEN) peated broace	Commer possible broadca	
Films and tapes produced by U.S. Government, unless specifically restricted.	Y	Y	Y	Y	Y	
Films and tapes produced by (or for) own institution at own expense	Y	Y	Y	Y	Y	
Excerpts from copyrighted films and tapes	Y1	R ²	R ²	R ²	R ²	
Copyrighted films and tapes presented in entirety	y1	R	R	R	R	

 $^{^{1}}$ Unless a contract with the producing agency specifically prohibits use on CCTV.

 $^{2 \}mbox{Use}$ is permissible under "not-for-profit" conditions, but, logically, use should not affect the commercial sale of the work for ethical if not legal reasons.

³By law and precedent no use can be made of unpublished material without permission of the owner. However, it is reasonable to suppose that quotations from unpublished dissertations, manuscripts, etc., can be used on live closed-circuit TV in the same manner they are used in the classroom.

²The copyright owner has exclusive right to "perform" a film or tape. Excerpts as examples for comment and criticism would be "fair use." Other uses would be a violation of the owner's rights,

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Utilization Check Lists

NOTE: The following checklists are meant only for use as guidelines for the producer in determining whether permission must be secured to utilize a particular work for a specific broadcast or closed-circuit application. It must be emphasized that these are only guidelines and interpretation of the law may be altered by recent court decisions.

The checklists are adaptations from a table in an article entitled "Using Copyrighted Material for ITV" by Fred S. Siebert, Donald G. Wylie and Thomas F. Baldwin which appeared in the May-June 1965 issue of the NAEB Journal.

Footnotes

1 General Information on Copyright, Circular 1 (Washington: Copyright Office, 1969), p. 1.

²Ibid., p. 4

³Ibid., p. 4.

4Ibid., p. 5.

RECORDINGS AND MUSIC

NOTE: WOUB (as most public TV and radio stations) does not hold an active ASCAP music performance license. Utilization is currently made under the "fair use" clause. We do hold gratis performance licenses from BMI and SESAC. However, re-recording (as in the case of a syndicated teen-age TV dance show) of phonograph records requires the permission of the record company, artists, publisher, agency, etc. In most cases, this permission is difficult and costly to obtain.

Producers comtemplating use of phonograph recordings in productions to be recorded should pay careful attention to the problems of music recording rights. Current opinions on these questions should be solicited before undertaking a major production.

It should be noted that WOUB has purchased rights to the recorded materials listed previously. We are permitted to utili e these as indicated without seeking additional permission.

recorded materials listed previously. We are permitted to utilize these as indicated without seeking additional permission.

The second without booking additional permission.					
KEY: Y = May be used without permission.	Live or Emphemeral Recording		Reco	orded Materi	al
R = Requires permission. Ephemeral Recording— One that will be erased after first use. Not	ing-		or ion and d use on	PTV for distribution (ETS, NET, CEN) & re- peated broadcast	Commercial for possible commercial broadcast
rebroadcast. Used only once. Convenience recording.	CCITV	PTV	CCITV for distribution and extended use on campus	PTV for distribution NET, CEN) peated broa	Commercial for possible comme broadcast
Recordings produced by U.S. Government	Y	Y	Y	Y	Y
Performance by own talent of copyrighted music	Y	Y	Y	Y	R
Recordings made by own institution	Y	Y	Y	Y	Y
Recordings made by others of copyrighted music or literary works	Y1	R	R2,3	R ³	R ³
Recordings or live per- formance of unpublished, uncopyrighted music	R	R	R	R	R

As long as there is no "public performance" (classroom use is not "public performance") of the recording.

Permission required for distributed materials only, not necessary for extended on-campus use.

Except as licenses permit.

⁵Harriet F. Pilpel and Morton D. Goldberg, A Copyright Guide (New York: Bowker, 1960), p. 22.

⁶Fred S. Siebert, Copyright, Clearances, and Rights of Teachers in the New Educational Media, A Report of a Study for the Commission on Academic Affairs of the American Council on Education (Washington: American Council on Education, 1964), p. 26.

⁷Ibid., pp. 26-27.

8Ibid., p. 27.

⁹For a case study in securing permission see: Bod Dudley, "Copyright Permissions for ETV," NAEB Journal, XXII, 6 (November-December, 1963), pp. 3-12.

STILL VISUALS

(Photographs, maps, drawings, graphics, models, works of art, copies of art work)

KEY: Y = May be used without permission. R = Requires permission. Ephemeral Recording— One that will be erased after first use. Not	Live of Emph Recor	emeral	CCITV for distribution and extended use on campus	PTV for distribution (ETS, NET, CEN) & repeated broadcast	Commercial for possible commercial broadcast
rebroadcast. Used only once. Convenience recording.	CCITV	PTV	CCITV for distribution extended u	PTV for distribut NET, CE peated by	Commercial for possible comme broadcast
Visuals from publications in the public domain	Y	Y	Y	Y	Y
Photographs taken by U.S. Government, and visuals in government publications unless copyright notice accompanying	Y	Y	Y	Y	Y
Photos taken by staff of own institution or by others at institution expense	Y	Y	Y	Y	Y
Graphics designed and executed by (or for) own institution at its expense	Y	Y	Y	Y	Y
Incidental use of visuals to dress set (not shown in close-up)	Y	Y	Y	Y	Y
Copyrighted visuals except maps and charts	y 1	Y1	R ¹	R	R
Copyrighted maps and charts	Y 2	Y2	R ^{2,3}	R ³	R ³
Unpublished, uncopyrighted visuals	R ⁴	R ⁴	R ⁴	R ⁴	R ⁴

¹Recording a copyrighted visual for later transmittion and broadcasting it open-circuit (live or rebroadcast) is probably permissible under "fair use." Exchange of recorded programs with other closed-circuit systems might be "fair use," but to be safe copyrighted visuals should be cleared for this use.

²The Copyright Act prohibits copying maps and charts. Use of a map or chart on live CCTV probably is not copying in the spirit of the Act. Recording the map or chart may be a violation.

³Except incidental use for review, comment, or criticism.

⁴Unpublished, uncopyrighted visual material cannot be used on TV without permission. It should be pointed out, however, that often permission is implied, such as in the case of photographs loaned by a library or by friends.

College Radio Engineering Survey

By Ludwell Sibley IBS Engineering Mgr.

An informal questionnaire on broadcast facilities sent out to fifty college station chief engineers last Fall gives some interesting results. The recipients were selected largely at random from across the continent. Their responses give a feel for how the typical station works, although there were no real surprises. (The percentages in the categories listed below sometimes add to more than 100% because of multiple responses.)

The stations involved used the follow-

ing transmission means:

Autio and Cable FM	8%
Audio Only	8%
Carrier-Current	69%
Carrier-Current and FM	15%

Estimated coverage ranged from 300 to 4,200 students, with an average of 1.600.

Financial support was:

Associated Students	58%
Commercial	11%
School	16%
Contributions	16%

53% are now IBS members; the rest have been. Annual engineering budgets range from \$300 to \$4,200 with an average of \$1,070.

Of the responding chief engineers, 86% are students, and 57% receive some salary, even if only in token amounts. Their staffs contain from zero to seven licensed (First or Second Class) operators, with an average of two, and most have at least one active radio amateur. Only 21% have attended an IBS conference.

They listed their engineering-related problems as

COICILIS as.	
Thefts	71%
Sloppy Logs	57%
Lack of Engineers	57%
Misuse of Equipment	50%
Lock Engineering	21%
Excessive Phone Fiddling	21%

71% of the stations had two or more studio consoles, a third of them custombuilt, the rest commercial. 60% of the consoles are solid-state. The run between zero and 20 (!) remote broadcasts per month, with an average of four.

The carrier-current stations operate from 1 to 18 transmitters, the mean being 4. Most are in the 5-watt class (49%), some are in the 20-watt range (29%), and the rest range up to 50-watts. They are

custom-built (58%) or Low Power Broadcast products (37%), with only a couple of Bauer Electronics or converted surplus units reported. They are all tube designs except for one tube-transistor hybrid

The stations get audio out to the transmitters through stationed-owned audio lines (33%) or Telco rented lines (58%), and 34% remote-control their transmitters. 34% of the stations use a multi-branched RF distribution network, with one station using linear amplifiers to make up for cable losses. Cable, where used, is largely RG-8, with some RG-58 and -59 and minor amounts of twisted pair wire. Ferrite-core RF transformers have almost entirely replaced tunedcircuit matching units. None of the stations report having had trouble with the authorities over radiation.

Telephone "Beeper" **Technical Reference**

The Bell System now distributes a text describing the connections and audio levels available from the current-model recording beeper, the KS-19645. It is entitled Preliminary Technical Reference. for Voice Connecting Arrangement RCZ, June 1970, and should be available through local telephone company marketing offices.

Useful Trick for Taped Special Effects

Not everyone is aware that most 3-motor tape machines can be threaded to record and play backward. All that is necessary is to run the tape around the capstan and capstan idler on the wrong sides. This produces a handy special effect for production work. Some 1- and 2-motor machines will work this way if the operator turns the take-up reel by hand. Figure 1 shows the threading method. Just be sure not to overuse this

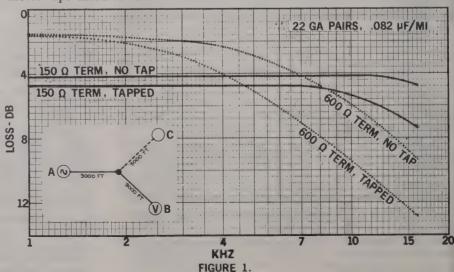
Protection for Telephone Remote Lines

The problem of accidental disconnection of remote loops has been with us a long time. An inexpensive transistor oscillator is now available to feed a tone over the loop at all times. Powered by a penlight cell, it has a claimed battery life of four to six months. It produces a beep of 700-Hz tone at -12 dBm every three seconds. At \$9.45 apiece, it will be a bargain if it saves just one remote broadcast! The "Sig Gen Model 700" and literature about it are available from CosCo Research, Inc., P.O. Box 17, Colorado Springs, Colorado 80901.

Limiters, Compressors, and Other Audio Processors

There is a certain amount of confusion over what the various types of processing amplifiers do for a station's performance. The October issue of Broadcast Management/Engineering contains a comprehensive article on the subject, including a comparison table of the various models.

For carrier-current stations the basic



requirement is a limiting amplifier, preferrably of the assymetric type which limits negative peaks more heavily than positive. A construction article is available in Section 55.50 of the IBS Master Handbook. The next most desirable item is a compressor, wired so that its output feeds the limiter. These two units in tandem reduce the dynamic range of the program material enough to get it past the various noises inherent in carrier-current transmission. A moderate degree of negative peak clipping in the transmitters is also useful.

Some Ideas on Do-It-Yourself Audio Lines

A number of the more active college stations have installed their own audio line networks across the campus. Where cable is available at reasonable prices and right-of-way exists to install it, this scheme offers the advantages of improved fidelity, reduced costs, and greater flexibility compared to renting telephone lines. See, for example, "Audio Cable Aids Programming," Master Handbook 54.10, for a description of the WHRB network at Harvard.

The fidelity of such a network is likely to be fairly good because of the short distances involved alone, and almost any layout will suffice for 5-kHz AM programming. However, getting flat response to 15 kHz for FM and top-grade remote recording is a little trickier.

The shunt capacitance of the cable has a rather decisive effect on the loss at high frequencies. As Table 1 suggests, the capacity varies considerably with the construction and the insulation material. Polyethylene is a much better performer than the vinyl normally used for studio wiring because of its lower dielectric constant.

The degree of inter-pair crosstalk in the cable depends on its construction and the relative audio levels on the pairs. Intercom-type cables are not particularly good in this regard. Individually shielded pairs are excellent but their cost and capacitance are high. Plastic-insulated telephone cable is a useful compromise: it uses different lengths of twist to give crosstalk coupling loss of 90 dB or better in the audio band. Crosstalk is minimized if all pairs in the cable operate at the same level and all terminations are balanced. The use of "phantom" and "simplex" techniques to get extra circuits out of a limited number of pairs is feasible but even with well-balanced repeat coils it involves a crosstalk penalty.

Noise and hum are not serious troubles on cross-campus distances if the terminating equipment is balanced. If the cable has a metal shield be sure to bond it across at splices and to ground the ends. Telephone-style lightning protectors are always advisable; they are a must if the cable runs overhead.

The frequency response of the circuits will depend on the cable type and length. the terminating impedances, and the amount of bridged tap going to multiple locations. If the response sags too much at the high end, it is always possible to apply an adjustable equalizer, but it is perferable to lay out the circuits so that the response is good by itself. The primary tool for this is the use of 600:150 ohm transformers at each end. This greatly flattens the response compared to using 600-ohm terminations, particularly where a bridged tap is present. Figure 1 shows the response of a 6000-foot loop with and without a 3000-foot open-circuited bridged tap, with both 150- and 600-ohm terminations. The tap is much less harmful with 150 ohms. If a multipoint loop is necessary to distribute program to AM transmitters, use a 150-ohm source and bridge the 600-ohm transmitters across the line. This gives good response and minimizes level changes when adding or removing transmitters.

An effective method to get flat response on long point-to-point loops (Continued on page 31)

TABLE 1

Cable	Capacitance uF/mi	Loss dB/mi+
19-ga, polyethylene telephone cable	0.084	3.5
19-ga. rubber field cable (WC-534)	0.132	3.8
22-ga. polyethylene telephone cable	0.082	5.8
22-ga. vinyl intercom cable	0.133	7.3
22-ga. stranded foil-shielded cable	0.179	8.7
22-ga. solid foil-shielded	0.211	9.1
22-ga. braid-shielded cable	0.254	9.9
24-ga. polyethylene telephone cable	0.084	7.8
24-ga. vinyl intercom cable	0.133	10.5
26-ga polyethylene telephone cable	0.079	10.0

+At 15 kHz, with "image-matched" terminations.

Look what we did to the world's finest tape cartridge system...



we made it better and named it Criterion 80!

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MUSIC INDUSTRY DEPARTMENT

SINGLES

KNOCK THREE TIMES MY SWEET LORD LONELY DAYS **BLACK MAGIC WOMAN** RIVER DEEP I THINK I LOVE YOU STONEY END PAY TO THE PIPER ONE LESS BELL TO ANSWER **GROOVE ME** YOUR SONG I REALLY DON'T WANT TO KNOW REMEMBER ME LOVE THE ONE YOU'RE WITH IT'S IMPOSSIBLE THE TEARS OF A CLOWN IF I WERE YOUR WOMAN STONED LOVE WE GOTTA GET YOU A WOMAN BORN TO WANDER

DAWN GEORGE HARRISON BEE GEES **SANTANA** SUPREMES & FOUR TOPS PARTRIDGE FAMILY BARBARA STREISAND CHAIRMEN OF THE BOARD FIFTH DIMENSION KING FLOYD **ELTON JOHN ELVIS PRESLEY** DIANA ROSS STEPHEN STILLS PERRY COMO SMOKEY ROBINSON GLADYS KNIGHT SUPREMES RUNT RARE EARTH

BELL APPLE ATCO COLUMBIA MOTOWN BELL COLUMBIA **INVICTUS** BELL COTILLION UNI RCA MOTOWN ATLANTIC **RCA** TAMLA SOUL MOTOWN **AMPEX** MOTOWN

R E O U T S



I'm Still Dancing
Presidents
Sussex
KLUC
Loyola University of Chicago

Workin' Together
Ike & Tina Turner
Liberty
KUGR
Washington State University
Pullman, Washington

Stop the War Now
Edwin Starr
Gordy
WOCR
State University College
Oswego, New York

A L B U M

ALL THINGS MUST PASS PENDULUM JESUS CHRIST, SUPERSTAR **ABRAXAS** STEPHEN STILLS THE PARTRIDGE FAMILY ALBUM **GREATEST HITS** PLASTIC ONO BAND **ELTON JOHN** WORST OF LIVE ALBUM **NATURALLY** BLOWS AGAINST THE EMPIRE **WHALES & NIGHTINGALES** DOORS 13 LED ZEPPELIN III CHICAGO TEN YEARS AFTER **PORTRAIT CLOSE TO YOU**

GEORGE HARRISON CREEDENCE CLEARWATER VARIOUS ARTISTS SANTANA STEPHEN STILLS PARTRIDGE FAMILY SLY & THE FAMILY STONE JOHN LENNON **ELTON JOHN** JEFFERSON AIRPLANE GRAND FUNK RAILROAD THREE DOG NIGHT **PAUL KANTER & JEFFERSON** JUDY COLLINS **DOORS** LED ZEPPELIN CHICAGO * WATT FIFTH DIMENSION CARPENTERS

APPLE **FANTASY** DECCA COLUMBIA ATLANTIC BELL **EPIC** APPLE UNI RCA VICTOR CAPITOL **DUNHILL RCA VICTOR ELEKTRA ELEKTRA** ATLANTIC **COLUMBIA** DERAM BELL A&M



McGUINNESS FLINT

McGUINNESS FLINT CAPITOL SMAS-625

Another of the strong English rock groups that have been gaining solidly in strength and chart sales. Good overall album . . . best cut is still their hit single release, "When I'm Dead and Gone," which is included.

FIVE EASY PIECES SOUNDTRACK

EPIC KE 30456

Jack Nicholson, fresh from his smashing job in "Easy Rider," will certainly help to make not only the movie a success but also this soundtrack album. Country and Western singer Tammy Wynette provides some strong vocal contribution with two of her top single hits, "Stand by Your Man," and "D-I-V-O-R-C-E." Classical pieces are given strong treatment also.





OSMONDS OSMONDS

MGM SE-4724

A group that started young with Andy Williams Show appearances only, now seem to have reached maturity, music-wise. Their strong climbing single, "One Bad Apple," is included in the album and will do the most toward making the disc a success in sales. Group sounds remarkably like Jackson 5 in "One Bad Apple" cut

JAMES LAST

EL CONDOR PASA POLYDOR 24-4507

Stations with middle of the road or chicken rock formats will find this best suited to their tastes. Simon and Garfunkle's latest big hit is central core of album in addition to heading title. Other recent rock hits included.



Other New Releases DISGUISED AS A NORMAL PERSON DAVID STEINBERG' ELEKTRA. EKS 74065

CLASSIC RUSH TOM RUSH

ELEKTRA EKS-74062

MUSIC INDUSTRY DEPT.

DISC NOTES

Despite the rigors of deadlines and mailing, the Journal has tried to keep its survey charts as up-to-date as much as possible, based on the surveys it receives from college radio stations throughout the country.

We realize that sometimes by the time the charts are sent to the printer and eventually arrive at stations, a good part of projected sales and airplay of records has been skewed. Regardless of this problem, the response from stations in mailing their surveys to us has been encouraging all year.

Program directors or music directors who are not mailing their charts or playlists can do so to: Music Industry Department, Journal of College Radio, Department of Speech, University of Oklahoma, Norman, Oklahoma 73069.

The Journal's MID section is currently interested in beginning a coverage of concert dates by recording artists. We will publish these reviews from any program or music director at a college station that covers the concert and mails the article to us. This is an area of the music industry that JCR has been wanting to cover for many years but has been unable to do so because of the lack of writers in different parts of the country. Any article accepted and published will run with a by-line of the author, his station and school.

The emergence of college radio stations as a force in the sale of records has been even more in evidence this year than at any time in the past. The response for cooperation between stations and record companies seems to be at an all-time high level, based mostly on the great things happening within the college market, in music and otherwise. The number of stations who have broken records in substantial markets has increased tenfold this year and the record manufacturers have responded accordingly. The outlook for the future should be bright, again, with a lot depending on the promotional and public relations work done by each individual station.

Federal Regulation of Broadcasting;

"Justified" Violence; and other topics

Featured in Fall 1970 Journal of Broadcasting

The developing history of federal control over radio broadcasting is documented by two articles appearing in the Fall 1970 issue of the Journal of Broadcasting. Marvin R. Bensman. Memphis State University, in "The Zenith-WJAZ Case and the Chaos of 1926-27" describes how the Department of Commerce, empowered by the Radio Act of 1912, tried to adapt its authority to the increasing congestion of the air-waves resulting from the growth of commercial broadcasting. The courts, however, proved unwilling to grant the Department "the power to regulate by the formation of rules not specifically stated in the Act of 1912." The resulting "chaos" led to the more adequate regulation of the Radio Act of 1927. It is at this point that the article by Don R. Le Duc, University of Maryland, and Thomas A. McCain, Illinois State University, entitled "The Federal Radio Commission in Federal Court: Origins of Broadcast Regulatory Doctrines" picks up the issue. Once Congress had acted, the courts were, for the most part, surprisingly willing to support the newly formed Federal Radio Commission and helped it to chart the area of control now exercised by the Federal Communications Commission. One particularly valuable portion of the Le Duc-McCain article is a listing of the more important cases, most of which were decided before the establishment of case reporting services in the field.

John D. Abel, Charles Clift, III and Fredric A. Weiss, graduate students of Indiana University, present a list which offers additional insight into federal regulation of both radio and television stations. In "Station License Revocations and Denials of Renewal, 1934-1969" the authors list the 78 stations which have been denied renewal or had their licenses revoked since 1934. The principal allegations raised against the stations and the precise citations are also provided.

Does "justified" violence, as presented in the mass media, serve a beneficial end? Many television programs show violence under a "crime does not pay" banner, with the "villian" getting his comeuppance at the hands of the law or the hero (or both). James L. Hoyt, Indiana University, experimentally explores the short term effect of viewing violence, as presented in a feature film on prizefighting. His conclusion is that, at least under the circumstances employed, "the witnessing of justified violence tends to increase, rather than to decrease, the probability that subsequent violence will occur."

Radio programmers increasingly are "thinking in terms of who they want for their audiences, and from that base are moving to capture as many of them as possible." Roger Skolnik and Robert, WIND, Chicago, in "Typologies of Radio Station Target Audiences" believe that programmers are correct in emphasizing the make-up of a potential audience and its wants when planning program content, rather than focusing on traditional station "format" categories which do not offer enough specific information from which to make decisions. A specific question of program content is explored by Steven H. Chaffee, University of Wisconsin, in his "Life and Death of a Viewer Poll." He urges individual station managers to evaluate the potential programming uses and dangers of viewer polls for news and entertainment, and offers a case study of such a poll conducted in Madison, Wisconsin, during the 1968 elections.

The Fall Journal contains two articles concerned with the responsibilities which television broadcasters have towards their viewers. Adnan Almaney, DePaul University, in his study, "International and Foreign Affairs on Network Television News," finds that "Network TV basically is a domestic news medium . . . (and that) international and foreign affairs are reported only when they reach the 'crisis' point." He believes that even if international and foreign affairs are not as popular with the viewing public as are domestic issues, that "Such a potent communication medium as TV can go a long way . . ." in stimulating the needed

interest. James B. Lemert and Karl J. Nestvold, University of Oregon, test the degree of status which is conferred on a person or subject appearing on network news programs as opposed to local news programs. The findings of "Television News and Status Conferral" support the theory of status conferral, especially in the case of network coverage, and the authors warn broadcast newsmen to carefully evaluate the possible effects their reporting may have on a particular individual or event.

Another research into little known, but important, effects of television is explored by Robert K. Tiemens, Wayne State University, in his "Some Relationships of Camera Angle to Communicator Credibility." He studies the commonly accepted principle of motion picture and television production that the camera angle will affect the perceived "dominance" of the subject being photographed had not, as yet, been scientifically tested.

Noel Avon Wilson, Lincoln University, states in his article, "The Thrust of the Mob and the Media," that the masses "receive the mass media offerings as something to be consumed—like a strong drink or tranquilizing pill..." He believes that since the electronic media depend on the print media for their literature of promotion and control, and since the individual can regulate his intake from the print media because of their linear quality, the latter media seem to be the ones which "offer the man in the mob a chance to assert himself in making his world a little more like the world he would have."

Thomas F. Baldwin and Stuart Surlin, Michigan State University, offer their colleagues, "A Tool for Graduate Student Advising." They describe the validation of a test they have devised for new communication graduate students that would give the student's advisor information as to what areas need to be emphasized so that the student will have a well-rounded experience.

Also in the Journal are a number of book reviews and a welcome to Dr. Christopher H. Sterling, the Journal's new Book Review Editor.

The Journal of Broadcasting is a scholarly quarterly published at Temple University, Philadelphia, Pennsylvania, by the Association for Professional Broadcasting Education, an organization founded to establish and maintain continuing relationships between commercial broadcasters and college and university departments that teach professional broadcasting.

KSLA Changes Image, Name

Cal State L.A.'s radio station, KSLA, got a new image and call letters at the beginning of the winter quarter, said Dave Friedland, station manager.

The change in call letters was requested by a station in Shreveport, La., also called KSLA.

The KSLA station will be changed to KBLA (Broadcasting in Los Angeles) because the letters were similar in sound to KSLA, and a set of jingles from a former station called KBLA was available, said Friedland.

The jingles help create a new image by adding a touch of professionalism to the station.

"We have the same programming but a fresh start. Hopefully the change will stimulate student interest," said the station manager.

Presently the station has ten disc jockeys broadcasting Monday-Friday from 7 a.m.-6 p.m.

KSLA broadcasts throughout the campus and the Marianna Residence halls.

Also adding to the station's new image is the news department under the direction of Rolf Schmitt.

The news department consists of four newscasters broadcasting three times on Mondays, twice on Tuesdays and Wednesdays and once on Thursdays and Fridays.

"We hope to get more newscasters so we can deliver the news on a wider scale," said Schmitt.

In the past the news was acquired through an Associated Press Teletype machine in the *College Times* office, the campus newspaper.

Beginning with this quarter, however, the news is delivered with an emphasis on campus activities. A sports show, offering sports highlights and interviews, is aired every Friday at noon.

"Becoming a member of the news team is the best way for an aspiring broadcaster to gain experience. He not only announces the news but he must write the news," said Schmitt.

Station personnel said they want to broadcast outside campus on an FM frequency (AM frequencies are not available). However, this is not forseen for at least five years.

"The main problem now is that we have to prove to the school, commuity and Federal Communications Commis-

sion that the station is professional enough to broadcast on FM radio," said Friedland.

Another problem holding back the station from going FM is that KSLA is entering a financial crisis.

The station is funded through advertising and Associated Students allocations which must be paid back, said Friedland.

The station is having trouble getting the needed advertising to repay the Associated Students due to the absence of an experienced advertising salesman, said Van Nickerson, public relations director.

"It is essential to have someone in the community to sell air time. This will show that the station has community support, which is essential to getting our license," said Nickerson.

The Associated Students will not allocate any money exceeding that of advertising intake for the purchase of equipment.

"A professional advertising salesman is what the station needs to get us on our way," said Nickerson.

Gamma Alpha Chi Moved to Lubbock

The national advertising fraternity for women, Gamma Alpha Chi, has moved its national offices to Texas Tech University at Lubbock.

This marks the second national advertising organization to move to Lubbock since last summer. At that time, Alpha Delta Sigma, national men's advertising fraternity, moved its offices.

Gamma Alpha Chi was founded at the University of Missouri in 1920 and now has initiated 10,000 members over the years. It has active chapters at 21 colleges and universities throughout the country, with professional chapters in Kansas City, Dallas and Houston.

The fraternity made the move to Lubbock from the University of Oklahoma at Norman. While at Texas Tech, Journalism Professor Ralph L. Sellmeyer will be executive director of the fraternity

This is the world's finest and largest selling turntable.



Gates CB-77

For complete details on the CB-77 12-inch turntable, write Gates, 123 Hampshire St., Quinčy, Illinois 62301.





by Ludwell Sibley

IBS, Engineering, and You. IBS offers a consultation service to member stations on technical problems via the Engineering Manager. As the new manager, the writer is your official contact for engineering queries. Member stations are invited to write or call Ludwell Sibley, Box 2010, Stanford, CA 94305, 415–321-2468 evenings. Individuals with proposed contributions to the engineering section of the Master Handbook are welcome to send them too. We particularly need new transmitter designs, especially all solid-state.

Use of Retired Broadcast Transmitters for Carrier-Current

The supply of AM transmitters retired from commercial stations has risen in recent years as improved models have become available and as stations have raised power. Many of these units in the 100-to-1000-watt range are well suited for use in large carrier-current systems. The transmitters produced between 1940 and 1965 are highly similar in design and none of them is too obsolete to use today. Aside from cleaning up, the principal change they need is replacement of mercury-vapor rectifiers with silicon diodes to make them less tempermental in the hands of unskilled operators.

The output power from these transmitters is too high to use into a single residence directly. However, with large campus-wide RF distribution networks built with lossy cable a power of 100-200 watts is within reason, based on some reasonable criterion such as one watt delivered to each residence power system per hundred occupants. Other factors are the losses in the cable and the matching transformers. Because RF power is available in bulk from one of these transmitters very cheaply, the RF distribution network can use cheap but lossy cable such as RF-58 or -59.

A number of ways are available to reduce the output power of these transmitters. Some of them already have a daytime-nighttime or a tune-up-normal power selector. On others one can rewire the primary leads to the high voltage

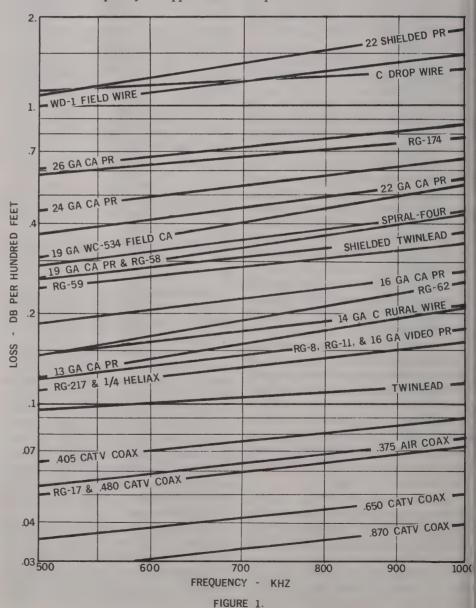
supply so that a 220-volt plate transformer gets only 117 volts. If the output power is still too high it is possible to construct a pad to dissipate some of the power. (If the unit feeds a long RF line before the first power splitter, put the pad at the splitter end so the line will do most of the dissipating. This way the pad can use resistors of lower wattage and the line will be guaranteed a low SWR too.)

220-volt power is a common requirement of this equipment. Fortunately, the usual 117-volt three-phase building supply provides 208 volts between phases. A given room frequently contains two or more phases, even between outlets on different sides of the same room. Another approach is to use 117 volts by rewiring the 220-volt plate supply for that voltage. The minor loads—filament transformers, low voltage supplies, blowers—are frequently strappable for

either voltage. If not, they can be powered from a 117:220 volt autotransformer. A transmitter operated at less than about 400 watts' output will not overburden a 20-amp 117-volt circuit.

The tubes in these units are not particularly expensive, particularly since many of them are the 833A type, and their life is measurable in years. With reduced plate current you can reduce the filament voltage to its lower rated limit, generally 5% low, and extend life even farther. Tubes that are too weak to produce full output are still usable.

It will be essential to check out the high voltage interlock circuits, particularly the door switches, to be sure they still work. A previous user may have wired out these safety features. The voltages used here deserve healthy respect.



Some of the older transmitters may have balanced outputs or impedances other than 50/72 ohms. An autotransformer wound on a big ferrite core will fix either of these problems. The advertisements in the amateur radio magazines show kilowatt balun kits with appropriate cores for a few dollars. Double or triple the number of turns for use in the broadcast band.

Cleaning Up Old Equipment

College stations scrounge a great deal of used broadcast equipment, much of it coated with years of grime. A couple of simple techniques are very effective in cleaning this gear up.

Where the underchassis dirt is loose and dusty, a blast of compressed air works beautifully. 50-psi air from a paint sprayer tank (try the local drama group's scenery shop) knocks the dirt out of wiring and similar inaccessible places in a most satisfying fashion.

For gummier dirt, a more dramatic method is to wash the unit in a hot detergent solution. Except for speakers, meters, and nonhermetic transformers, broadcast quality equipment will stand a short dunking in hot water. After brushing the dirt loose, wash away the detergent with a stream of hot water. Then put the equipment in a hot oven for a while to dry it out. With careful handling this technique will succeed without dismounting transformers. It sounds destructive but really raises the value of grimy gear.

Carrier-Current Transmission Line Data

It is frequently possible to provide carrier-current service to a group of residences by means of a central transmitter and RF distribution lines feeding each of their power systems. Compared to the alternative of using a separate transmitter for each dormitory, this plan has definite advantages in regard to frequency coordination, reliability, maintenance ease, and audio line cost. The only obstacle to its use is usually lack of a place to install the RF transmission line or of an alternative existing line.

To lay out a distribution system intelligently one must be able to estimate the power losses to be expected. Figure 1 gives attenuation data for a variety of wire lines in the carrier-current frequency range. These make it possible to compute the transmission efficiency of a proposed

or existing line. For lines of a hundred feet or so the losses are not particularly serious, but for longer circuits they add up rapidly. Some carrier-current systems have been designed on the assumption that the line is lossless at broadcast frequencies. This results in simplified, but wrong, calculations.

The most desirable lines for our purposes are the coaxial types. They are nearly radiation-free if the shield is grounded, they withstand heat and water without becoming lossy, and they are generally efficient. The RG-series lines are familiar and readily obtainable. For long distances the CATV-style lines with solid shields are more efficient and cost less than comparable RG-types. Some campuses with extensive educational television systems have spare .375" air-dielectric coaxials to the dormitories; these can sometimes be made available for carrier-current use. Coaxials of different impedances can be used in the same system by use of ferrite-core (Continued on page 30)





WMUC, the student radio station for the College Park (main) campus of the University of Maryland began very humbly 28 years ago in an old shower stall of a men's dormitory. Since then, the station has emerged as a 24 hour a day, seven day a week operation involving nearly 100 students. By means of eleven carrier-current transmitters WMUC broadcasts music, news, sports, and plain old fun to the 11,000 campus residents throughout the school year.

WMUC boasts studio facilities to match and even exceed many of the commercial stations in the Washington,

D.C. radio market.

An automation system interconnected with two cart machines (that play I.D.'s and announcements) keep WMUC on the air between 3 and 6 a.m. while staff members go home to sleep.

This automation system, designed by chief engineer Russ Brown, plays a campus activity announcement each time the Seeburg changes albums and a legal I.D. on the hour and half-hour. A timing device cues the I.D. cart machine to stand-by for the end of the next album cut. Then the unit shuts off automatically while the I.D. plays, which then cues the unit to start again. The most logical

explanation for all this is "magic" but it works very well.

WMUC's main air studio is equipped with a Gates Dualux board, three Tapecaster cart machines, two turntables, a tape recorder, a 350-AG, and an Electrovoice 666 microphone.

The production studio uses an RCA board and two Tapecasters (one of which records and also delays programming for telephone talk shows), and two recorders.

The news production room has three tape decks for Metromedia news feeds, local actualities, and documentary production. Two Tapecasters record taped material for the newscasts which run hourly.

The news air studio is equipped with three Tapecasters (700-P), an Electrovoice 635-A microphone and a transistorized homebrew board.

All of the studios and the automation system can be put on the air without a patch panel, thus a mechanical failure in one studio can be bypassed in a matter of seconds with the push of a button.

WMUC's programming schedule seeks to meet "the individual preferences of a large campus audience." Music varies from Top 40 to Progressive, with an



Above: General Manager Ed Jones keeps station operation smooth and in progress, also assisting in technical engineering.

Opposite page: News Director Jerry Cesak attends operation of equipment in the newsroom in preparing "voicers" for the hourly news broadcast.





At work in the production studio is news and program staff member Mike Collins.



Pete Ferrara, program director of WMUC, operates Gates Dualux console in the main air studio.

emphasis on heavier music during the night.

New staff members are usually assigned to the news department to gain experience, which can be invaluable to them. News director Jerry Cesak works with each newscaster, showing them the basics of news gathering, writing, and broadcasting. Other senior staff members lend a hand to make the process a smooth one.

The news department at WMUC is important because it provides a thorough coverage of campus news and activities.

WMUC has eleven permanent remote telephone lines located at strategic points on the 1300-acre campus. These remote lines afford instant live broadcast facilities while the news is being made.

Being a carrier-current station in the midst of nearly 40 other stations in and around Washington, D.C. has its problems. On-the-air personnel are encouraged to maintain "a professional sound with a collegiate flavor." A time slot between 7:30 and 11:00 weeknights is marked as "the personality slot," to allow the most seasoned air personalities a free hand to do what they do best. The shows range from a two-man music/humor confection ("The Cesak and Bayer Affair") to a soft music/live poetry session.

WMUC depends greatly on its promotion department. In addition to several gimmicks like WMUC posters for give-aways, record albums and gifts from sponsors are distributed through various contests. Remote record hops which are simultaneously broadcast can be set up at any of the eleven remote terminals on campus on short notice. Several Shure mixers, plus microphones, cart machines, turntables and headphones, are always available for such broadcasts.

WMUC's sports department recently initiated live broadcasts of freshman basketball games, both home and away. The varsity games are carried by a commercial station. Because of the superior talent on the freshman team, Maryland's Cole Field House (which seats 14,000) is often sold out. Sports Director Darryl Nixon and sportsman Craig Allen do the play-by-play.

General staff personnel are not paid for their services. Executives and department heads are paid a lump sum honoraria which figures out to about 5c an hour on an hourly basis. Nevertheless, WMUC operates on a budget of \$23,000.00, most of which comes from the Student Government Association, and the rest from advertising income. National accounts are secured through Campus Media.

The University of Maryland's recent expansion of telephone facilities proved to be a windfall to WMUC. The news department can now contact any college or university (or any other news source) in a 22-state area toll-free. Previous facilities limited toll-free calls to Maryland alone.

Since WMUC was on the air broadcasting to a college-age audience long before most Washington area stations switched to contemporary music, the record library is the most extensive collection of rock and progressive music in the area. A tight security system is maintained to make sure it *remains* the most extensive collection.

Public service is a big part of WMUC's programming policy. PSA's from campus groups are encouraged and solicited by the continuity department. As a special project last Christmas, the station col-

lected several thousand dollars for the Children's Hospital of the District of Columbia, a facility that never turns away a sick child when his parents cannot afford the hospital bill.

As an entertainment medium for the listeners and an educational medium for the staff, WMUC has fostered many Washington radio personalities, several of whom are currently employed as parttimers at area stations while attending school full-time.

Way back in 1963 the Intercollegiate Broadcasting System awarded WMUC its "All American College Radio Station" award for stations with a listenership of more than 5,000 people.

WMUC is even more proud of thatrecognition today because we've come so far in those eleven years.

Please drop in for a visit if you're ever in College Park.

Copy by Ted Mintzer, Photos by Ed Small.

A fully equipped newsroom is supported by three TEAC A-7030's, which handles Metro-Media radio out of Washington, D.C., along with local news and sports from news personnel.

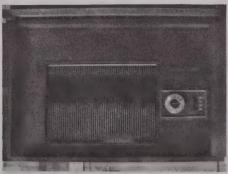




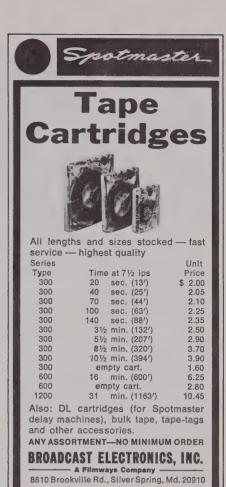
Rick Hickmon, features director, operates production studio board used for preparation of special news, sports, and features presented regularly on WMUC.

Shelley Caro, news staff member, prepares a campus event headline for broadcast.





WMUC broadcasts 21 hours of the day live and automated. The remaining three hours by the Seeburg "Music Machine."



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Applications For Federal Assistance

The following applicants have filed for federal financial assistance in the construction of non-commercial education broadcasting facilities with the Department of Health, Education, and Welfare's Office of Education.

The Educational Television Council of Central New York, Inc., for the establishment of a non-commercial educational FM radio station on Channel 217, Syracuse, New York. Estimated project cost: \$126,760. Grant requested: \$95,070.

Board of Supervisors of Louisiana State University and Mechanical College, Lakefront, New Orleans, Louisiana, for the expansion of non-commercial educational radio station WWNO-FM on Channel 210. Estimated project cost: \$93,117. Grant requested: \$69,837.

South Carolina Educational Television Commission, Columbia, South Carolina, for the establishment of a non-commercial educational FM radio station on Channel 217. Estimated project cost: \$72,935. Grant requested: \$54,702.

South Carolina Educational Television Commission, for the establishment of a non-commercial educational FM radio station on Channel 211, Greenville. Estimated project cost: \$75,980. Grant requested: \$56,985.

Michigan Technological University, Houghton, Michigan, for the expansion of non-commercial educational radio station WGGL-FM on Channel 216. Estimated project cost: \$135,000. Grant requested: \$101,250.

University of Massachusetts, Amherst, for the expansion of non-commercial educational radio station WFCR-FM on Channel 203. Estimated project cost: \$16,464. Grant requested: \$12,346.

South Central Educational Broadcasting Council, Hershey, Pennsylvania, for the establishment of a non-commercial educational FM radio station on Channel 208. Estimated project cost: \$175,000. Grant requested: \$131,250.

Metropolitan Government of Nashville and Davidson County by the Public Library Board, Nashville, Tennessee, for the expansion of non-commercial educational radio station WPLN-FM on Channel 212. Estimated project cost: \$98.264. Grant requested: \$73.264.

Community Television, Inc., Jacksonville, Florida, for the establishment of non-commercial educational FM radio station on Channel 210. Estimated project cost: \$256,987. Grant requested: \$192,740.

Saginaw Valley College, University City, Michigan, for the expansion of non-commercial educational radio station WQDC-FM on Channel 259, Saginaw, Michigan. Estimated project cost: \$43,168. Grant requested: \$32,400.

Jack Straw Memorial Foundation, Seattle, Washington, for the expansion of non-commercial educational radio station KRAB-FM on Channel 299. Estimated project cost: \$26,200. Grant requested: \$19,200.

Alabama Educational Television Commission, Birmingham, Alabama, for the establish-

ment of a non-commercial educational FM radio station on Channel 220. Estimated project cost: \$67,662. Grant requested: \$50,746.

State of Oregon, Acting by and through the State Board of Higher Education, Eugene, Oregon, for the expansion of non-commercial educational radio station KOAP-FM on Channel 218, Portland, Oregon. Estimated project cost: \$63.300. Grant requested: \$47.475.

Center for Radio and Television, Ball State University, Muncie, Indiana, for the expansion of non-commercial radio station WBST-FM on Channel 214. Estimated project cost: \$114,357. Grant requested: \$85,768.

Metropolitan Pittsburgh Educational Television, Pittsburgh, Pennsylvania, for the establishment of a non-commercial educational FM radio station on Channel 207. Estimated project cost: \$107,003. Grant requested: \$80,252.

University of Nebraska Regents, University of Nebraska at Omaha, Omaha, Nebraska, for the establishment of non-commercial educational FM radio station on Channel 214, Omaha, Nebraska. Estimated project cost: \$62,155. Grant requested: \$46,615.

Eastern Kentucky University, Richmond, Kentucky, for the improvement of non-commercial educational radio station WEKU-FM on Channel 205. Estimated project cost: \$29,091. Grant requested: \$21,818.

Maricopa County Junior College District, Phoenix, Arizona, for the expansion of non-commercial educational radio station KFCA-FM on Channel 218. Estimated project cost: \$74,027. Grant requested: \$55,520.

WHYY, Inc., Philadelphia, Pennsylvania, for the expansion of non-commercial educational radio station WHYY-FM on Channel 215. Estimated project cost: \$95,345. Grant requested: \$71,508.

WGBH Educational Foundation, Boston, Massachusetts for the improvement of non-commercial educational radio station WGBH-FM on Channel 209. Estimated project cost: \$19,308. Grant requested: \$14,481.

The Board of Curators of Lincoln University, Jefferson City, Missouri, for the establishment of a non-commercial educational FM radio station on Channel 205. Estimated project cost: \$44,976. Grant requested: \$33,732.

University of Oregon, Eugene, Oregon, for the improvement of non-commercial educational radio station KWAX-FM on Channel 216. Estimated project cost: \$21,877. Grant requested: \$16,408.

Pacifica Foundation, North Hollywood, L.A., California, for the improvement of non-commercial educational radio station KPFK-FM on Channel 214. Estimated project cost: \$47,307. Grant requested: \$35,480.

Rainy River State Junior College, International Falls, Minnesota, for the expansion of non-commercial educational radio station KICC-FM on Channel 218. Estimated project

cost: \$19,974. Grant requested: \$14,974.

Board of Regents, Northern Illinois University, DeKalb, Illinois, for the expansion of non-commercial educational radio station WNIU-FM on Channel 208. Estimated project cost: \$250,948. Grant requested: \$188,211.

St. Cloud State College, St. Cloud, Minnesota, for the expansion of non-commercial educational radio station KVSC-FM on Channel 205. Estimated project cost: \$53,737. Grant requested: \$40,303.

Millersville State College, Millersville, Pennsylvania, for the establishment of a non-commercial educational FM radio station on Channel 213. Estimated project cost: \$99,990.

Grant requested: \$75,000.

Oklahoma State University of Agriculture and Applied Science, Stillwater, Oklahoma, for the expansion of non-commercial educational radio station KOSU-FM on Channel 219. Estimated project cost: \$90,000. Grant requested: \$45,000.

Community Radio Workshop, Inc., Durham, North Carolina, for the establishment of a non-commercial educational FM radio station on Channel 212. Estimated project cost: \$62,710. Grant requested: \$41,550.

East Texas State University, Commerce, Texas, for the establishment of a non-commercial educational FM radio station on Channel 205. Estimated project cost: \$48,664. Grant requested: \$36,164.

Northern Pennsylvania ETV Association, Scranton, Pennsylvania, for the establishment of a non-commercial educational FM radio station on Channel 206. Estimated project cost: \$140,000. Grant requested: \$105,000.

Board of Trustees, University of Kentucky, Lexington, Kentucky, for the expansion of non-commercial educational radio station WBKY-FM on Channel 217. Estimated project cost: \$59,837. Grant requested: \$44,837.

University of South Carolina, Columbia, South Carolina, for the expansion of non-commercial educational radio station WUSC-FM on Channel 210. Estimated project cost: \$15,425. Grant requested: \$11,425.

Memphis Community Television Foundation, Memphis State University, Memphis, Tennessee, for the establishment of a non-commercial educational FM radio station on Channel 216. Estimated project cost: \$68,017. Grant requested: \$51,013.

University of Minnesota, Minneapolis, Minnesota, for the establishment of a non-commercial educational FM radio station on Channel 219. Estimated project cost: \$95,579. Grant requested: \$71,684.

WIDR ANNOUNCES FUND RAISING SUCCESS

Among the many stations to successfully raise money for worthy causes during this past Christmas season was WIDR, Western Michigan University in Kalamazoo.

The station raised nearly \$500 in 18 hours in its Christmas Seals Drive for Kalamazoo County. It marks the seventh year of cooperation by the station's staff with the Tuberculosis and Respiratory Disease Association.

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convo 32

AT THE
BILTMORE HOTEL, NEW YORK CITY
APRIL 15-16-17-18, 1971

Jackpot Telethon For WSUS

The third time is a charm and this time it meant thousands of dollars for needy families in the Wisconsin State University community area.

The event, held for the third time, was the WSUS-FM Radio-Telethon, conducted this past December 12th and 13th in Stevens Point, Wisconsin, where the school is located. The end result was a total contribution of \$4,100.

The 35-hour telethon was administered by approximately 50 students on the WSUS staff, working throughout the weekend. Over 20 entertainment groups staged performances during parts of the weekend to raise money, in addition to the contributions from social groups, fraternities, businesses and local high schools.

The \$4,000 raised was \$1,000 more than the telethon goal this year. When the event was inaugurated back in 1968, \$164 was raised by the station. Last year's effort brought in \$1,800. This year's \$4,000 bonanza will be administered by the Catholic Social Service, Operation Bootstrap and the Community Action Center, all in Stevens Point.

An individual contribution was received by the station for \$175 from the Tau Kappa Epsilon Fraternity, in exchange for the red vest worn by Wisconsin State President, L. S. Dreyfus.

The great success WSUS had with the third annual telethon was well publicized, with the story appearing in the campus newspaper, the Stevens Point Daily Journal, the Milwaukee Sentinel, which has state-wide distribution, and United Press International and the Associated Press.

WSUS's efforts as a communityminded station have been shown in the Journal before, appearing as the Station of the Month in December of 1969.

To be sure, it was a happier Christmas season for many families in the central Wisconsin area. Thanks should go to WSUS-FM and Stevens Point's cable television station, which broadcast the event.

FROM THE EDITOR

(Continued from page 3)

lyrics (whatever those are) be banned from the air or should that songwriter and artist have the right to communicate his message the way he or she sees fit?

Commissioner Robert E. Lee of the FCC believes the former is imperative to protect the youth. His proposed rule to the Commission would require record manufacturers to provide a copy of lyrics of records used in broadcasts, to enable broadcasters to read and understand all lyrics within a song. This would do nothing to solve the moral question involved, it would only remove the broadcasters excuse of not knowing the exact lyrics of a particular song that was

deemed questionable. The final control would fall, as is implied in the Communications Act, to the licensee. This would finally lead to the broadcaster's decision on the moral responsibility he has or believes he has. Hopefully, the FCC will never take to listing all the objectionable lyrics it wanted banned, as it attempted to do last year with words they tried to deem obscene.

The answers to these and other questions can hardly be found here. Indeed, this column has historically asked more questions than it has provided answers for. But the raising of the questions themselves is half the battle. And that battle will be raging for some time to come.

Radio...The Greatest Sound on Earth

NEW THEME ANNOUNCED

The National Association of Broadcasters has announced the theme for the 1971 National Radio Month, May 1-31. The selection: "Radio....The Greatest Sound on Earth."

National Radio Month is an annual, month-long event, sponsored by NAB, its radio membership and the national radio networks (NBC, CBS, ABC, MBS).

A special promotional packet for use by member stations and networks during the May observance is now being produced by the NAB.



Grover C. Cobb



Paul B. Comstock



Paul Haney

NEW POSITION AT NAB

The month of January climaxed the search for the three new executive vice presidents at the National Association of Broadcasters.

Named to the position of executive vice president for station relations was Grover C. Cobb, with Paul B. Comstock appointed for government relations and Paul Haney for public relations.

Cobb is now vice president, broadcasting, Gannett Company in Rochester, New York. Mr. Comstock has been vice president and general counsel with the NAB and Haney has been vice president for public affairs with the Houston Astrosbaseball organization and the Astrodomain.

College Beginning

Cobb began his career in broadcasting as an undergraduate in Kansas. He worked for KSAL, Salina, Kansas, and then moved to WLVA, Lynchburg Virginia.

He helped organize the Kansas Asso ciation of Radio Broadcasters in 1951 and served as its secretary, vice president and president.

Haney is best known for his work with NASA, becoming known as "the voice of the Astronauts" while working for Project Mercury and the Manned Space craft Center.

Salaries for the three men range from \$45-50,000.

PUBLISHER'S REPORT

(Continued from page 2)

Of course, it is easy to reflect back upon a subject and offer suggestions. Students actively pursuing a degree today are just as confused as the graduate, the broadcaster, and the educator. Maybe more so.

The broadcasting student usually graduates with a potpourri of courses semi-related to his field of endeavor. His first encounter is production courses after all, his big goal in life is to be a "jock." Generally, this goal is replaced by news, sales, or management. Goal changing is common with everyone, but for the broadcasting major, time is against him. By his senior year, his final goal is established, but no time is left to fulfill the requirements. What he tries to do is take a four year liberal arts degree, cram in an area of specialization (sometimes more than one), and change his mind several times. His problem is compounded by advice from former students, industry people, and academic advisors. All too often, he ends up with a bachelor's degree in hodge-podge.

One student interviewed for this report said he was enrolling for his final semester-and still had no idea of which area of broadcasting suited his interests best. His freshman year was taken up fulfilling basic requirements for the university. His sophomore year contained more of the same. It was during his second year that he began taking courses in production. These were his favorite areas of study-after all, he had always dreamed of the glamorous side of the field. Becoming a "jock" was his entire ambition throughout high school and into college. By his junior year, the realization of "jocking" began its decline in his goals. It is now his senior year-his goals are different, his problems compounded. He sees a need for marketing, consumer behavior, advanced business courses, aspects of communication theory, and other courses-but his time has run out. At this point in his academic pursuit, he can extend his stay at college (taking more courses), or graduate with his present knowledge and start the long climb upward in the industry.

From here, we can only speculate his future. But, it is obvious he is beginning with a negative attitude. He will see fellow employees without broadcasting degrees, and many without any degree, pass him when promotion times come. He

LETTERS

(Continued from page 3)

and holding the new people at the station.

This article is now prominently displayed at key places at the station as a reminder to our staff.

I am adopting several of the suggestions brought forth in the article in our training program here at WUNH. Thanks for the advice! I hope more stations take the article at heart. Congratulations are in order for Jerry Tellis.

David P. Cokley, Chief Announcer WUNH Radio, Univ. of N. H., Durham

Editor:

We are pleased to review the station-of-the-month article about carrier current station WIDR at Western Michigan University, as presented in the December, 1970 issue of the Journal of College Radio. So many of the station-of-the-month articles have concentrated on educational FM operations that the casual reader might have begun to think nothing else existed. Contrary to this, we know over 1,000 successful carrier current stations now in operation.

In the article, reference is made of conversion from carrier current to the age-old system of inducing RF into the steampipes, now given an exotic new name. The reason given is to "provide WIDR's listeners with a signal free from hum and buzz—far superior to that produced by carrier current." We would like to advise your readership of that which we have unequivocally proven to at least 100 colleges; that hum and buzz is not necessarily synonymous with carrier

will reflect back and blame his college study.

Of course, this is an unusual case which points out the worst for any student—but it happens all too often. Who is to blame? Actually, nobody. Most employers will say, "It's up to the individual." And, rightly so, but something is wrong with some aspect of the system.

(Next month, What Can Be Done?—A Few Recommendations.) Also, see related article in this issue by Charles Lynch of Southern Illinois University.

current. As professional specialists in the carrier current broadcast field since 1960, the most difficult hurdle which we repeatedly have to overcome is that of the "experts" who have gone before us. On the typical campus, they have spent several thousand dollars of each of several successive trys to evolve the presumed conclusion that "carrier current won't work on this campus." Carrier current is a little science and a lot of art, helped along greatly by good equipment. An analysis of many of these failures shows deficiencies in all three areas.

While we know that we still have much to learn, we feel we are far enough down the road to total success, that our response for the past several years to those who say "it can't be done on our campus" is to offer them a guaranteed performance installation contract; signal uniformity, quality, hum free noise level and equipment reliability ... these are all facts which are here today, and we can prove it.

Richard H. Crompton, President Low Power Broadcast Co.



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ENGINEERING

(Continued from page 21)

impedance transformers, but accurate layout records will be necessary to prevent future confusion. To hold down the cost of a coaxial installation, the following ideas will be helpful:

- A. Buy the simplest version of the cable, for example RF-58 with solid inner conductor rather than RG-58C with stranded conductor. The loss and cost are both slightly less. Avoid the foam-dielectric versions, which cost more but deliver virtually the same performance in the 500-1000 kHz band;
- B. Try to buy in thousand-foot lots;
- C. Terminate the cable on barrier strips rather than coaxial connectors. At broadcast frequencies this affects neither the SWR nor the loss. Splices are perfectly acceptable if they are mechanically strong.

If a right-of-way is not available to install a coaxial, there may be a school-owned line already in place. Most campuses have intercom, paging buzzer, heating control, class bells, or telemetering cables of various ages, generally with spare pairs. Probing around the basement of an old residence is very profitable in turning up abandoned and forgotten cables. One of these will work

directly for a transmission line if the distance is short. If not, it may be entirely feasible to accept the loss and use a linear amplifier at the far end. This is a cheaper and better solution than installing a whole transmitter. Radiation is not a serious problem in cables with a metal shield overall, particularly if the RF pair is terminated in a balanced source and load. If there is RF crosstalk in an intercom cable it is usually possible to stop it with bypass capacitors from the intercom pairs to ground. However, do not try to pass RF through a telephone company cable; in addition to the legal and tariff problems, severe rectification crosstalk is likely to occur in the telephones. Where a coaxial line joins a balanced pair, a ferrite transformer will take care of matching and balancing.

Figure 1 shows losses for cable pairs from 13 to 26 gauge. The curves are for polyethylene- or paper-insulated pairs having the capacitances listed in Table 1. Other types of insulation will be lossier. As an example, 19-gauge WC-534 field cable pairs with .132 uF/mi rubber insulation are less efficient than 19-gauge .084 uF/mi pairs. The same is true of 22-ga vinyl intercom cable pairs, and older types with waxed cotton insulation, versus polyethlene. Tests using multiple pairs in parallel have not been successful; the wire resistance is less, but the shunt capacitance is more, and the result is not appreciably better than using a single

Another type of line is shielded individual pairs: "Spiral-four" surplus

cable, shielded twinlead, audio cable, and 16-gauge video pairs. These media can be

TABLE 1

TABLE I	
Medium	Zo (ohms
Cable Pairs:	
13 ga (.061 uF/mi)	116
16 ga (.062 uF/mi)	85
19 ga (.084 uF/mi)	. 87
19 ga (WC-534, .132 uF/mi)	93
22 ga (.082 uF/mi)	91
24 ga (.084 uF/mi)	107
26 ga (.079 uF/mi)	99
Coaxials:	
RG-8, 17, 58, 174, 217	50
RG-11, 59	75
RG-62	93
CATV Types	75
.375 Air	75
Miscellaneous:	
C Drop Wire	92
C Rural Wire	118
Spiral-Four	39
Twinlead	300
Video Pair (16 ga)	124
WD-1 Field Wire	120
22 ga Shielded Pair	91

radiation-free if the shield is grounded solidly and the terminations are balanced. Video pairs, a very expensive medium otherwise, may be available in educational television systems. The attenuation curve for spiral-four is based on having the diagonally-opposite wires in parallel to form a super-pair; this is the most efficient arrangement.

A fourth, rather marginal, possibility is unshielded individual pairs: twinlead, "C" rural telephone wire, WD-1 surplus field phone wire, and telephone drop wire.

(Continued on page 31)

THE PROGRAM-CENTERED BROADCASTING CURRICULUM

(Continued from page 6)

PROBLEMS

There are a number of obvious problems in this programming approach to the study of broadcasting. The major one is the tendency for the interest in the program to center on production and writing and not in the direction of student scripts. The student tends to admire the commercial program rather than the educational program since the structure and appeal of the commercial program until recently has been more subtle and intricate. If the student is involved in the study of programs, he tends to avoid one part of the argument which has been raised in our journals concerning liberal arts and trade schools. The program-oriented student must be a technician, but he is a technician with words and ideas rather than with equipment.

Another problem arises when the program is used as the base for a curriculum. The current network program fare is an ever-varying text. The teacher is forced to keep up with the

industry because the programs tend to reveal new industrial problems.

The study of the program makes the student a "Loving Critic" of the broadcaster's efforts. The student is constantly challenged to come up with a better structure and a better set of appealing circumstances before he criticizes a program. Thus a student is asked to accept certain ground rules ("conventions") about programming—but he is free to create a better program. The result of all this is a conservative study of a conservative business.

The program-oriented curriculum accepts a number of conventional ideas which are open to question. But on the other hand, it offers a student a fascinating world of programs outside of the studio experience. It fits in at most grade levels and is a natural springboard for the study of most courses in the normal radio-television sequence. It is of value to a number of students in allied fields. However, it does depend upon a knowledge of programs.

The wandering of our students from the field of broadcasting after graduation makes it necessary that we give them information of value to the non-broadcaster. The programming course certainly does that.

COLLEGE RADIO ENGINEERING SURVEY

(Continued from page 17)

(high-priority music remote locations or FM studio-to-transmitter links) without bridged tap is to add loading coils to the cable. These are serious inductors placed at regular intervals along the line to offset the shunt capacitance. This is a standard technique: nearly every telephone subscriber loop longer than 18,000 feet has 88-mH coils at 6000-foot intervals. Treated thus, the loop gives low and constant loss up to about 3500 Hz at the expense of higher frequencies. With much smaller coils placed closer together the same principle works for program loops.

sections nearest the ends are half-length, 1500 feet if the main coil-to-coil spacing is 3000 feet. For high-capacitance cable the shorter spacings are necessary; for .132 uF/mi cable use 1800 feet or less, and for .179 uF/mi use 1200 feet or shorter.

Loading has the additional feature of raising the characteristic impedance of the line closer to 600 ohms and making it more nearly resistive. Table 2 gives the impedance of 22-ga loops with .082 uF/mi capacitance and 5.5-mH loading. (The characteristic impedance of wire lines is nowhere near constant, and is highly reactive in the audio range. 22-ga pairs go from 1297 - j1291 ohms at 100 Hz to 134 - j85 ohms at 15 kHz. The

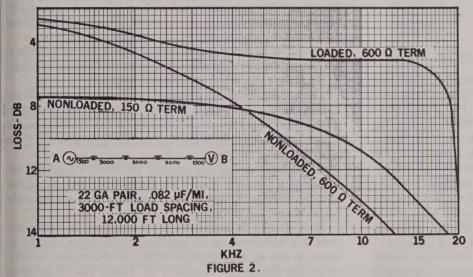


Figure 2 shows the response of a 22-ga loop both nonloaded and treated with 5.5-mH coils at 3000-foot intervals. The loading reduces the loss and, more importantly, the loss slope (the difference between loss figures at low and high frequencies). The coils can be individual 2.8-mH inductors, one for each wire in the pair, or a pair of windings on the same core giving 5.5 mH. These values are purely illustrative; the exact inductance and spacing are not critical as long as all coils and spacings are similar. The cable

"600-ohm" audio line is something of a myth. Even "50-ohm" RG-58 coaxial cable is 133 - j128 ohms at 1 kHz!)

The loading technique can be helpful in simplifying the terminal equipment. If there is need for one high-grade stereo remote line and one stereo studio-to-transmitter link, the possible saving is eight broadcast-grade repeat coils and four equalizers. In addition, the 600-ohm impedance makes it possible to use standard repeat coils to derive "composite" signaling paths; there is no need

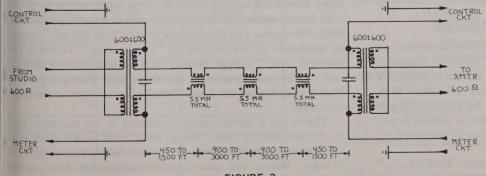


FIGURE 3.

TABLE 2

Load Spacing	Zo (ohms)
Non-Loaded	416-j399
3000 ft.	497-j340
2400 ft.	513-j323
1800 ft.	548-j302
1200 ft.	617-j269
900 ft.	683-j243

for scarce multi-winding 150-ohm transformers. See Figure 3 for a typical application of this idea.

If one must include equalization, the simple shunt equalizers of MH 54.10R (for 15 kHz) or 54.18R (for 5 kHz) or the similar Altec 17249 and 17224 are suitable. The basic lineup procedure for these is fairly simple. Using a 600-ohm generator and meter on the nominally 600-ohm ends of the circuit, measure the circuit loss at 15 (or 5) kHz. Then wire the equalizer across the line at the receiving end. Measure the loss at 1 kHz and adjust the equalizer until the loss is the same as the 15- or 5-kHz loss previously measured. With minor trimming this technique normally flattens the response to within + 1 dB across the band.

ENGINEERING

(Continued from page 30)

These lines radiate severely if their balance is disrupted. Their losses increase if they are exposed to water and their impedances become less. They are unsuited to use in conduits or ducts. Twinlead and WD-1 are rather too fragile to be trusted outdoors. With a linear amplifier at the distant end, however, it may be possible to keep the power level on the line low enough to prevent radiation.

The three lines at the top of the graph, WD-1, drop wire, and shielded pairs, are included primarily to show their inefficiency. At 1 to 1.75 dB per hundred feet they are not practical for more than minor lengths.

The data listed here are from manufacturers' literature, Reference Data for Radio Engineers, telephone industry publications, and, in the case of the odder media, lab tests to determine the loss and characteristic impedance.

This information should be useful in designing carrier-current systems that strike a balance between efficiency and cost: neither too lossy a line for long distances nor too expensive for short. The use of a non-coaxial line may make a consolidated system feasible even where there is no chance to install a coaxial. Some of the more unusual lines listed here have been used very successfully.



AM-FM PROGRAM DUPLICATION

Earlier this fall, FCC Commissioner Robert E. Lee told broadcasters in Atlanta he was for the "all-channel radio bill" only when there were not so many FM broadcasters duplicating their AM programming. "Why should the government," Lee told the Georgia Association of Broadcasters, "require the public to buy FM receivers if FM programs are obtainable on AM stations? When this question is answered to my satisfaction and I am satisfied that the broadcaster is giving the FM medium the full exploitation that it deserves and the public seems to be clamoring for, I would throw my full weight to the support of this proposed legislation."

This is a bill the collegiate broadcaster should get behind and push. Each week a new college FM station, commercial and educational, goes on the air.

Each survey the Journal has seen shows increasing percentages in FM sets on college campuses, but this bill would accelerate the per cent figures in record time.

The all-channel bill would require AM set manufacturers to include FM reception capability in all radio receivers much like the all-channel TV set law of 1962. That law required manufacturers to build sets capable of receiving both VHF and UHF signals.

Letters from the college broadcaster to Commissioner Lee and Representative Alvin E. O'Konski (Rep-Wis) will be of great value for the life of this bill. Rep. O'Konski introduced a smiliar bill in the 91st Congress.

The Journal of College Radio fully endorses this proposed legislation.

PROFESSORS CHALLENGE LICENSE

A group of faculty members from the University of Wisconsin, headed by Dr. Lawrence Lichty, Associate Professor of Speech, have challenged the license of WISC-TV (Channel 3) in Madison. Professor Lichty said that their chances for success are "very slim." But he added: "People have a right to complain when they believe a station is not serving in the public interest. We're just trying to get people to give a damn."

Lichty's group, known as "Better Television for Madison," has filed a petition with the Federal Communications

EDITORIALS

Commission asking for a public hearing on the question of whether Channel 3's license to broadcast should be renewed for another three years.

BTM's major complaints stem around the following: "For one thing," said Lichty, "they (Channel 3) do a sloppy job. For another thing, they make enormous profits compared to the other two commercial stations here (Channel 15 and 27), but they do the poorest job in terms of news gathering and public affairs programming.

"Those of us who teach radio and television journalism and see news documentaries elsewhere, agree that Channel 3 verges on being the worst we've ever seen anywhere."

Lichty cited from the National Commission on the Causes and Prevention of Violence. "The percentage or amount of time devoted to new and public affairs is only one measure of public service. Equally important as the time devoted is the quality of programming."

Lichty's group does not want to put WISC-TV off the air, nor do they want the license for themselves. They would just like to see it in the hands of people who will run it in the better interests of the public.

Most stations do an admirable job of serving the public, but once in a while each barrel develops a rotten apple. And by no means is this an indictment of WISC-TV—that is for the FCC to decide. But we do commend Dr. Lichty and his group of concerned citizens. All too often broadcasting educators simply hibernate in the caverns of a classroom, repeating lectures prepared decades ago. A truly outstanding teacher will give credit where credit is due, labor hard to improve the industry, and present criticism when needed.

Educators give awards to stations excelling in public service—and stations are anxious to become the recipient of these awards. How sad when a station can accept an award, but reject criticism of its inadequacies.

THE NEW GENERATION

A new breed of broadcaster is coming on the scene. To many old-time broadcasters, this is a threat to their dominant domain. Like it or not, they are coming. The new generation is more concerned with human life than bank accounts, more with human sufferings than ratings, and more with peace than P&L statements. For the Journal to say, "this is good," would be academic—all we can say is, "they're here." To see it for yourself, visit a college campus, talk to broadcasting majors, and discuss communication problems with younger people. You will soon discover a new breed of broadcaster coming on the scene.

This is not a revolutionary movement in the industry—and in all probability, these "young turks" will be absorbed into the present system, whereas, the system will remain much as it is today. We see this as a favorable relationship. The present system is good—a new conscience will make it better.

JOURNAL OF COLLEGE RADIO

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Just published — worth its small cost many times over to anyone involved in radio-TV broadcasting. Contains information essential for day-to-day station operators, as well as for reference. Covers such important facets as Overcommercialization, Cigarette Ad rulings, Recent changes in ID Rules, the Personal Attack Rules, TV & CATV Cross-Ownership, and many others. Moreover, the content not only explains what the FCC Rules require, but also provides clearcut procedures for complying with federal regulations. 192 pps., Comb-bound.

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ELECTRONIC TEST & MEASUREMENT HAND-BOOK By John J. Schultz. Here are a host of tests and measurements, designed to eliminate waste mo-tion and improve the accuracy of a variety of tests on receivers, transmitters, transceivers, antennas, and a wide range of accessory units. Written for the electronic technician, broadcast/communications en-gineer, "ham," or serious hobbyist, this practical book tells how to measure critical performance stand-ards using moderately priced test equipment, in each case accompanied by thoroughly detailed procedures Hardbound \$7.95

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By Sol Robinson. In this guidebook, the author relates, quite specifically and to the point, the techniques he has found to be successful during his many years as a newsman and as a part of management. Covers what is required of a broadcast journalist, the problems he faces, and the solutions, how to deal with news sources and how to prepare news stories understandably and accurately. To be successful the broadcast journalist must use successful methods—and he'll find them in this thorough work wirtten by an experienced and dedicated broadcaster. Illustrations include many photos, charts, graphs, plus an appendix of synonyms for over 2700 modern everyday words. Also included is a list of commonly mispronounced

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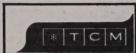
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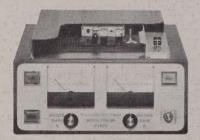
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